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Heske, E.J.

1979-1982

Catalogue

#1 - #719

(duplicate numbers
#1-#22)

Calif.

Costa Rica (719)

Heske, E.
1979

Catalogue

3.9 mi S, 3.9 mi W Martinez, Contra Costa Co., California 640 ft.

coll. 23 Sept., died 26 Sept.

t=5mm

1 ♂ Peromyscus truei 188-100-24-21 = 23.0g

coll. by S.W. Sherwood

1.1 mi. NE Sagehen Cr. Field Sta., TS 18N, R 16E, S 5, ~~6500~~ 6328 ft

Nevada Co., California

5 Oct.

scars 1R-2L

2 ♀ Eutamias amoenus 196-78-30-17 = 48.8g

6 Oct

testes = 9mm

3 ♂ Eutamias ~~townsendi~~ quadrimaculatus 231-93-36-25 = 83.9g

1.6 mi N. Chilcoot, T23N, R16E, S 25, 5120 ft

Plumas Co., California

7 Oct

nulliparous

4. ♀ Microdipodops megacephalus 150-83-23-9 = 12.4g

scars 3R-4L

5 ♀ Perognathus parvus 175-91-24-9 = 17.7g

testes = 3mm

6 ♂ Reithrodontomys megalotis 128-59-17-14 = 9.4g

Chaparral Calhoun Line, Haystack Hill, Hastings Nat. Hist. Res.,

Carmel Valley, Monterey Co., California elev 2000 ft.

17 Nov.

t=9 sv=13

7. ♂ Dipodomys venustus 297-175-45-20 = 78.0g

E. HESKE
1981

Gel Inventory

Apr. 22 — Richmond Field Station, Alameda Co., California

EH 1	*M. californicus*	♂ scrotal	saliva, blood, liver, muscle, toe
EH 2	*M. californicus*	♂ juv.	saliva, blood, liver, muscle, toe

25, 26 April

EH 3	*M. californicus*	♂ scrotal	saliva, blood, liver, muscle, toe
EH 4	"	♀ not perf.	"
EH 5	"	♂ not scrotal	"
EH 6	"	♀ preg, 3 embs	"
EH 7	"	♂ not scrotal	"
EH 8	"	♂ scrotal	"
EH 9*	"	♂ scrotal	"
EH 10	"	♂ just scrotal	"
EH 11	"	♀ preg.	"
EH 12	"	♂ scrotal	"
EH 13	"		

saline (EH 3 – EH 7)

Old Growth Project 1981

Catalogue

4-mile Creek, T6N, R5E, S18 (HBM), Humboldt Co., Calif. 2710 ft.

5 August 1980

skull only 1. ♀ Sorex trowbridgeii dead in pitfall – pt. 2

skull only 2. ♂ Sorex trowbridgeii "

~~skull only~~

20 October 1980

skull only 3. ? Sorex trowbridgeii 99-48-11-8 = ?g dead in pitfall pt. 3 sta. 3

29 May 1981

skull only 4. ♀ Sorex trowbridgeii 117-53-12-8 = ?g dead in pitfal pt 3. sta. 3

Brush Mt., T6N, R5E, S18 (HBM), Humboldt Co., Calif. 3400 ft.

7 August 1980

skull only 5. ? Sorex trowbridgeii 110-49-12-6 = ?g dead in pitfall Pt 1. sta. 4.

20 October 1980

skull only 6. ♀ Peromyscus maniculatus 172-81-21-16 = ?g dead in pitfall Pt. 1 Sta. 1

22 October 1980

skull only 7. ? Sorex trowbridgeii 103-47-13-5 = ?g dead in pitfall Pt. 2 sta. 4

Horse Linto Creek, T8N, R6E, S32 (HBM), Humboldt Co., Calif., 3200 ft.

8 September 1980

skull only 8. ♀ Sorex trowbridgeii 105-47-13-7 = ?g dead in pitfall Pt 3. sta. 6

Hawkin's Bar Rd., intersection with Big Oak Rd., T6N, R5E, S20 Trinity Co., California

4 Nov. 1980

skull only 9. ♂ Neurotrichus gibbsii 100-35-15-7 = 8g

Old Growth
Project
1981

Catalogue

Swede Creek Plot, T34N, R7E, S13, (HBm), Trinity Co.
Calif., 2500 ft.
20 May 1981

10. ♂ Sorex trowbridgeii 113-51-13-7 = ? g dead in pitfall Pt. 3, sta. 8

Hwy 96, mile marker 1.15, Humboldt Co., Calif.
12 June 1981

11. ♀ lact. Eutamias towsendii 246-102-38-20 = ? g.

Brush Mtn., T6N, R5E, S18 (HBm), Humboldt Co., Calif., 3400 ft
5 February 1981

12. ♂ Clethrionomys occidentalis 145-42-16-13 = ? g Pt. 1, sta 5
23 June 1981

skull only 13. ? Sorex ? - 63 - 16 - ? = ? g dead in pitfall pt. 1, sta. 5

skull only 14. ? Sorex trowbridgeii dead in pitfall pt 1 sta 3

4-mile Creek, T6N, R5E, S18 (HBm), Humboldt Co., Calif., 2710 ft
23 June 1981

skull only 15. ? Arborimus longicaudus ? - 58 - ? - ? = ? g dead in pit fall pt 1. sta. 8

Old Growth Project 1981

Catalogue

Brush Mtn., T6N R5E S18 (HBM), Humboldt Co., Calif. 3400 ft

23 June 1981

scars = 2L 1R (+1 sm R = resorbed?)

18. ♀ *Eutamias townsendi* 257-104-33-22 = 95 g   Sherman 6 ft. up in D.F. tree Sta #1

4-mile Creek, T6N R5E S18 (HBM), Humboldt Co., Calif. 2710 ft.

21 June 1981

scars = 4R

19. ♀ *Eutamias townsendi* 267-112-40-25 = 120 g   Pt. 2

23 June 1981

scars = 3L

20. ♀ *Peromyscus maniculatus* 175 - 78-21-17 = 21 g   Pt. #1

South Fork,

3 July 1981

nulliparous

21. ♀ *Eutamias townsendi* 176-76-33-20 = 21 g   trap #72

t = 6x3

22. ♂ *Eutamias townsendi* 203-79-35-21 = 40 g   trap # 64

E. Heske
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

collected 6 Jan., prob. died 4 Jan. in flood

	No.	Notes	Sex	Species	Measurements
skull only	8	scars 2R 2L	♀	Peromyscus maniculatus	163-71-18-16 = 18.2
"	9	emb. 2R 3L, CR=7mm	♀	Peromyscus maniculatus	160-72-18-18 = 22.2
"	10	t=5x3	♂	Peromyscus maniculatus	155-66-20-17 = 17
"	11	emb. 2R 2L CR≈8mm	♀	Peromyscus maniculatus	148-61-18-19 = 18.6
"	12	null	♀	Scapanus latimanus	189-43-22 — = 82
"	13	emb 1R 3L CR=26mm	♀	Scapanus latimanus	164-30-20 — = 70
"	14	t=5x3	♂	Sorex vagrans	103-38-11-7 = 4.6
"	15	t=4x2.5	♂	Sorex vagrans	100-36-10-6 = 4.5
"	16	null	♀	Sorex vagrans	108-39-11-7 = 5.6
"	17	t=4x2	♂	Sorex vagrans	101-38-12-5 = 5.5
"	18	null	♀	Sorex vagrans	100-36-11-6 = 4.3
"	19		♂	Sorex vagrans	99-39-11-6 = 4.5
"	20	null	♀	Sorex vagrans	101-34-10-7 = 3.4
"	21		?	Sorex vagrans	
"	22		♀	Sorex vagrans	
"	23	t=8x4	♂	Reithrodontomys megalotis	155-85-15-14 = 11.5
"	24	t=3x2 abd.	♂	Reithrodontomys megalotis	135-70-15-13 = 8.5
"	25	null	♀	Reithrodontomys megalotis	136-69-15-12 = 8.8
"	26	t=6x3	♂	Reithrodontomys megalotis	138-71-16-12 = 8.1
"	27	null	♀	Reithrodontomys megalotis	126-63-16-12 = 6
"	28	null	♀	Reithrodontomys megalotis	127-63-16-12 = 6.5
"	29	t=3x2 abd.	♂	Reithrodontomys megalotis	129-62-16-12 = 7
"	30	t=3x2 abd.	♂	Reithrodontomys megalotis	120-58-16-12 = 5
"	31	~~t=3x2 abd.~~ null.	~~♂~~ ♀	Reithrodontomys megalotis	124-57-16-12 = 5.5

E. Heske
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.			Measurements
skull only	32	t=3x2 abd.	♂ Reithrodontomys megalotis	121-57-15-13=5.5
"	33	t=3x2 abd.	♂ "	127-61-16-13= ?
"	34	null.	♀ "	146-71-17-14 =8.5
"	35	emb. 2L 1R CR=20 mm	♀ "	146-70-17-14 = 14
"	36	t=7x5	♂ "	160-78-18-15 =11
"	37	t=6x3	♂ "	153-75-17-14 = ?
"	38	swelling 1L	♀ "	148-69-17-14 = ?
"	39	t=4x2 abd.	♂ "	147-68-17-14 =9.5
"	40	t=2x1.2 abd.	♂ "	140-70-17-14 = 7
"	41	emb 4L 1R CR=19mm	♀ "	154-75-17-14=20
"	42	scars 2L 1R	♀ "	149-74-16-13 =11.5
"	43	null.	♀ "	133-64-14-13=8.5
"	44	t=5x3.5	♂ "	139-66-16-13 =9.5
"	45	t=5x3	♂ "	141-62-17-13=11
"	46	t=3x2 abd.	♂ "	152-77-17-14 =10.5
"	47	emb 2L 1R CR=24 mm	♀ "	146-64-15-13 =12.5
"	48	t=4x2 abd.	♂ "	136-65-15-13= 7
"	49	scars 2L 1R	♀ "	147-68-17-15= ?
"	50	t=6x3	♂ "	141-67-16-13=10.5
"	51	emb 2L 3R CR=9mm	♀ "	139-67-16-13=10.5
"	52		♀ "	————
"	53	t=5x3	♂ "	145-72-16-13=9.5
"	54	t=6x4	♂ "	149-75-17-14 =10.5
"	55	t=4x2 abd.	♂ "	147-74-17-13 =10

E. Heske
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.		Sex	Species	Measurements
skull only	56	t=5x3	♂	Reithrodontomys megalotis	140-61-15-14=11
"	57	t=7x4	♂	"	146-73-14-14=10
"	58	scars 2L 1R	♀	"	140-78-16-14=9
"	59	t=6x4	♂	"	155-79-16-14=?
"	60	t=7x4	♂	"	149-74-17-14=11
"	61	scars 1L 2R	♀	"	154-74-17-13=?
"	62	t=5x3	♂	"	146-70-17-14=10
"	63	null.	♀	"	109-55-14-11=4.5
"	64	t=5x3	♂	"	148-73-16-13=9.5
"	65	t=2x1 abd.	♂	Microtus californicus	98-21-18-9=11
"	66	null.	♀	"	103-21-18-9=11.5
"	67	t=4x2 abd.	♂	"	124-33-19-11=19.5
"	68	t=4x2 abd.	♂	"	98-9*-19-11=14
"	69	null.	♀	"	129-32-20-12=21.5
"	70	null.	♀	"	134-36-19-12=?
"	71	scars 3R	♀	"	168-46-22-15=39.5
"	72	null.	♀	"	128-35-20-12=17
"	73	t=7x5	♂	"	183-49-22-15=48.5
"	74	null.	♀	"	105-29-17-9=12
"	75	t=3x2 abd.	♂	"	117-37-18-10=12.8
"	76	null.	♀	"	150-44-20-12=29
"	77	t=7x3	♂	"	167-51-19-14=34
"	78	emb. 3R 3L CR=5mm	♀	"	166-42-21-13=36.3
"	79	t=6x4	♂	"	155-44-19-13=28.5

* tail broken

E. Heske
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan. ; prob. died in flood 4 Jan.

	No.	Notes	Sex / Species	Measurements
skull only	80	t=8x4	♂ Microtus californicus	182-56-20-14 = 50.5
"	81	emb. 2R 2L CR=24mm	♀ "	166-50-19-14 = 43
"	82	t=5x3	♂ "	174-49-20-15 = 46.5
"	83	t=6x4	♂ "	177-53-21-14 = 40
"	84	emb. 2R 2L ; 1R resorbing	♀ "	170-51-21-15 = 38.5
"	85	t=7x4	♂ "	180-54-21-15 = 45
"	86	t=8x4	♂ "	166-53-19-? = 35.5
"	87	scars 3R 2L	♀ "	148-46-18-13 = 28.5
"	88	t=4x2 abd.	♂ "	157-49-19-? = 23
"	89	null.	♀ "	130-37-20-13 = 21.5
"	90	t=3x2 abd.	♂ "	133-40-19-12 = 16.5
"	91	~~[illegible]~~	♀ "	— — 14 — = ?
"	92	scars 2R 2L	♀ "	156-47-21-13 = 27.0
"	93	t=4x2 abd.	♂ "	144-47-20-14 = 27.5
"	94	emb. 1R 2L CR=5mm	♀ "	167-51-21-15 = 36.5
"	95	t=7x4	♂ "	169-50-20-14 = 45.5
"	96	t=9x5	♂ "	183-56-20-15 = 48.5
"	97	t=8x5	♂ "	170-53-21-15 = 46.5
"	98	null.	♀ "	114-28-18-10 = 14
"	99	null.	♀ "	124-34-20-13 = 21
"	100	null.	♀ "	122-32-18-14 = 20
"	101	emb. 2L 2R CR=4mm	♀ "	159-40-21-15 = 34.5
"	102	perf., no scars	♀ "	170-45-21-15 = 40
"	103	emb. = 2L 2R CR=29 mm	♀ "	168-45-21-17 = 50

E. HESKE
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan ; died in flood 4 Jan.

skull only	104	t=6x4 ♂	Microtus californicus	162-42-21-15=42.5
"	105	t=7x5 ♂	"	180-48-21-16=52
"	106	t=4x3 abd. ♂	"	158-40-21-15=25.5
"	107	t=7x5 ♂	"	177-46-20-16=43
"	108	emb. 2L 2R CR=14mm ♀	"	163-40-20-16=40.5
"	109	t=7x5 ♂	"	165-42-21-15=39
"	110	emb 2L 1R CR=26mm ♀	"	167-41-21-15=47
"	111	t=4x2 abd. ♂	"	168-44-22-15=38
"	112	swellings 1L 3R ♀	"	180-49-22-16=39.5
"	113	scars 3L 1R ♀	"	163-45-19-14=38
"	114	t=6x4 ♂	"	171-47-21-15=40
"	115	scars 2R ♀	"	152-39-20-14=33
"	116	emb. 2R 1L CR=24mm ♀	"	179-49-21-15=45.5
"	117	emb 2R 2L CR=22 mm ♀	"	164-47-22-14=38
"	118	t=6x4 ♂	"	180-48-22-16=41.5
"	119	scars 1L 2R, swell. 3L 1R ♀	"	169-44-20-15=37
"	120	t=7x5 ♂	"	179-42-22-16=49
"	121	null. ♀	"	112-39-19-12=21
"	122	null. ♀	"	109-32-17-10=13.5
"	123	scars 2L 3R ♀	"	~~[illegible]~~ 163-50-19-16=35
"	124	emb 2R 1L CR=3 mm ♀	"	156-48-21-16=33
"	125	t=5x3 abd. ♂	"	179-54-19-16=43
"	126	null. ♀	"	159-49-20-14=36
"	127	scars 3R 2L ♀	"	164-52-20-16=35

E. HESKE
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6. Jan; died in flood 4 Jan.

skull only 128	t=8x5 ♂	Microtus californicus		176-54-20-16 = ?
" 129	t=6x4 ♂	"		168-52-21-15 = 36
" 130	emb. 2L 1R CR≈5mm ♀	"		164-51-20-15 = 46
" 131	scars 4R 2L ♀	"		159-50-19-15 = 33
" 132	t=6x3 ♂	"		174-58-19-14 = 36.5
" 133	t=8x4 ♂	"		164-52-21-15 = 37.5
" 134	emb 2R 2L CR≈5mm ♀	"		144-41-20-14 = 27.5
" 135	t=7x5 ♂	"		172-47-22-15 = 45
" 136	emb 2R 1L CR≈5mm ♀	"		169-48-21-15 = 34.5
" 137	t=3x2 abd. ♂	"		135-34-19-14 = 21
" 138	null. ♀	"		148-41-20-14 = 24.5
" 139	t=6x4 ♂	"		179-52-22-16 = 42
" 140	t=8x5 ♂	"		192-52-22-16 = 51
" 141	emb 2L 1R CR=10 ♀	"		173-45-22-16 = 37.5
" 142	t=6x4 ♂	"		165-43-21-15 = 36
" 143	null. ♀	"		163-43-21-14 = 30
" 144	null. ♀	"		139-38-20-13 = 21
" 145	t=4x2 abd. ♂	"		141-37-19-14 = 26
" 146	null. ♀	"		105-28-18-10 = 10.5
" 147	null. ♀	"		128-36-19-11 = 17.5
" 148	null. ♀	"		140-39-20-14 = 22.5
" 149	null. ♀	"		135-37-19-13 = 19
" 150	t=7x5 ♂	"		179-51-22-17 = 47
" 151	t=7x5 ♂	"		164-43-21-15 = 39

HESKE
1982

Catalog

Salinas River Wildlife Refuge, Monterey Co. California

coll. Jan. 6; prob. died in flood 4 Jan.

skull only 152	t=7x5 ♂	Microtus californicus	175-45-22-16=41
" 153	swellings 3L 3R ♀	"	167-46-20-15=35
" 154	t=4+3 abd. ♂	"	142-35-20-14=25
" 155	t=7x5 ♂	"	170-42-21-16=47
" 156	null. ♀	"	131-33-19-14=22
" 157	t=3x2 abd. ♂	"	144-42-20-15=24
" 158	t=7x5 ♂	"	171-48-21-16=43
" 159	t=6x4 ♂	"	156-41-20-15=41
" 160	scars 2R 1L ♀ swellings 2R 2L	"	170-47-21-16=39.5
" 161	t=7x5 ♂	"	168-44-22-15=49
" 162	scars 3R 2L ♀	"	174-54-22-15=43.5
" 163	emb. 2R 1L CR=14 ♀	"	158-40-21-15=39
" 164	t=3x2 abd. ♂	"	169-45-20-15=36
" 165	t=7x5 ♂	"	161-39-21-14=38
" 166	emb 1R 3L CR=8 ♀	"	161-42-21-14=29
" 167	t=7x6 ♂	"	172-47-21-15=52
" 168	null. ♀	"	156-41-21-14=31
" 169	t=7x5 ♂	"	165-40-21-15=42.5
" 170	t=3x2 abd. ♂	"	125-32-18-11=17.5
" 171	scars 4R 3L ♀	"	166-44-21-16=36.5
" 172	null ♀	"	127-35-18-13=19
" 173	t=5x3 abd.? ♂	"	161-49-22-16=35
" 174	t=3x2 abd. ♂	"	138-35-19-14=23.5
" 175	scars 5R ♀	"	151-42-20-15=30

E. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6. Jan.; prob. died in flood 4 Jan.

skull only	176	null. ♀	Microtus californicus	138-37-19-14 = 23.5
"	177	t=4x3 abd. ♂	"	140-37-19-14=25
"	178	t=4x3 abd. ♂	"	138-31-19-14=25
"	179	scars 3R 2L ♀	"	171-44-21-16=38
"	180	scars 2R 2L ♀	"	162-42-21-15=33
"	181	scars 5R 2L ♀	"	160-43-21-15=33.5
"	182	emb. 4R CR=6 scars 1R 4L ♀	"	167-45-21-16=43
"	183	scars 3R 1L ♀	"	171-42-21-15=41
"	184	t=3x2 abd. ♂	"	125-37-19-13=18
"	185	t=6x4 ♂	"	169-41-22-15=41
"	186	scars 3R 1L ♀	"	168-48-21-16=35.5
"	187	t=8x6 ♂	"	191-54-24-18=65
"	188	null. ♀	"	123-33-19-13=18
"	189	t=6x4 ♂	"	169-43-20-15=42.5
"	190	♂	"	161-46-20-15=?
"	191	emb. 1R 2L CR=18 ♀	"	175-47-22-16=47
"	192	t=7x5 ♂	"	169-45-20-16=45
"	193	emb. 2R 1L CR=5 ♀	"	160-45-20-16=32.5
"	194	♀	"	136-41-19-14=?
"	195	emb. 3R 2L CR=10 ♀	"	175-45-20-17=46
"	196	t=4x3 abd. ♂	"	144-37-20-13=23
"	197	t=3x2 abd. ♂	"	122-30-18-12=14.5
"	198	scars 1R 1L ♀	"	163-43-21-16=35
"	199	t=7x5 ♂	"	180-50-22-16=48

E. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Notes	Sex	Species	Measurements
skull only	200	t=3x2 abd.	♂	Microtus californicus	118-30-18-12=19.5
"	201	null	♀	"	135-33-19-15=25.5
"	202	t=5x4	♂	"	157-39-20-14=38
"	203	t=7x5	♂	"	163-39-21-15=38.5
"	204	scars 3R 3L	♀	"	168-45-21-16=36
"	205	emb 4R CR=9mm	♀	"	168-44-21-15=41
"	206	emb 2R 1L CR=19	♀	"	149-46-18-13=27
"	207	scars 2R 1L	♀	"	155-48-21-14=42
"	208	scars 2R 2L	♀	"	149-49-20-13=30.5
"	209	emb 2R 2L CR=4mm	♀	"	167-50-20-15=39.5
"	210	null	♀	"	140-40-19-13=26
"	211	emb 2R 1L CR=19	♀	"	154-52-20-15=43.5
"	212	scars 3R 3L	♀	"	154-49-20-15=38.5
"	213	t=(small) abd.	♂	"	89-24-15-8=7
"	214	t=5x3	♂	"	155-49-19-14=28.5
"	215	t=6x4	♂	"	163-50-19-16=35.5
"	216	t=6x3	♂	"	161-51-21-15=36.5
"	217	emb 4R CR=4	♀	"	150-49-19-15=37.5
"	218	t=3x2 abd.	♂	"	129-44-19-10=21
"	219	t=3x2 abd.	♂	"	111-37-18-9=11.5
"	220	null.	♀	"	113-34-19-10=13.5
"	221	null.	♀	"	144-44-19-14=26.5
"	222	t=4x2 abd.	♂	"	134-40-19-13=23
"	223	scars 1R 4L	♀	"	168-55-19-16=40.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Remarks	Sex	Species	Measurements
skull only	224	t=6x3	♂	Microtus californicus	166-55-20-14=34
skull only	225	null.	♀	"	134-39-18-14=14
skull only	226	scars 2R 2L	♀	"	162-51-19-15=31.5
"	227	emb. 2R 2L CR=6	♀	"	163-51-21-14=33.5
"	228	null.	♀	"	145-44-19-14=24.5
"	229	t=8x5	♂	"	180-55-22-15=49
"	230	scars 4R 2L	♀	"	147-42-19-14=28.5
"	231		?	"	— — 20 — = ?
"	232	null.	♀	"	113-40-18-13=19.5
"	233	t=6x4	♂	"	159-51-20-15=33.5
"	234	t=3x2 abd.	♂	"	121-38-19-13=16.5
"	235	t=2x2 abd.	♂	"	104-32-18-12=9.5
"	236	null.	♀	"	117-34-18-13=14
"	237	null	♀	"	146-36-19-14=21
"	238	null.	♀	"	137-42-18-14=22.5
"	239	scars 3R 4L	♀	"	163-51-20-15=32.5
"	240	?	♂	"	117-26 (part eaten)-20-13=20.5
"	241	emb 2L CR=9	♀	"	159-45-21-16=39.5
"	242	emb 2L CR=12	♀	"	165-49-20-17=38
"	243	t=4x3 abd.	♂	"	149-45-18-15=30.5
"	244	null.	♀	"	154-44-18-14=31.5
"	245	t=4x3 abd.	♂	"	154-47-20-15=28.5
"	246	t=3x2 abd.	♂	"	115-33-17-11=13
"	247	null.	♀	"	118-38-19-12=15.5

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coll. 6 Jan.; prob died in flood 4 Jan.

	No.	Notes	Sex	Species	Measurements
skull only	248	null.	♀	Microtus californicus	111-35-18-12 = 14.5
"	249	t=4x2 abd.	♂	"	135-43-19-13 = 22.5
"	250	null.	♀	"	89-25-14-9 = 9.5
"	251	scars 2R 3L	♀	"	155-50-20-14 = 38.5
"	252	t=7x5	♂	"	167-48-20-16 = 40.5
"	253	t=4x2 abd.	♂	"	131-37-18-13 = 24
"	254	?	♂	"	144-44-19— = 18.
"	255	null.	♀	"	155-45-19-14 = 27.5
"	256	t=3x2 abd.	♂	"	117-39-17-11 = 15.5
"	257	emb. 2R 1L CR=28	♀	"	195-65-21-17 = 55
"	258	scars 2R 1L	♀	"	146-46-18-14 = 27.5
"	259	t=6x4 (R only. L degenerate)	♂	"	153-39-20-14 = 43.0
"	260	null.	♀	"	91-27-16-9 = 11
"	261	emb. 3R CR=25	♀	"	166-48-20-14 = 47
"	262	t=7x5	♂	"	174-53-20-16 = 50
"	263	emb 3R CR=25	♀	"	168-52-20-15 = 51
"	264	t=5x3	♂	"	161-53-21-14 = 39.5
"	265	t=6x4	♂	"	170-52-21-16 = 38.5
"	266	uterus flaccid - early preg?	♀	"	165-52-20-15 = 43.5
"	267	emb. 3R 1L CR=12	♀	"	157-51-21-15 = 37
"	268	scars 3R 1L	♀	"	146-42-20-14 = 27
"	269	t=7x5	♂	"	170-52-22-14 = 44.5
"	270	emb. 3L CR=15	♀	"	163-52-20-15 = 39
"	271	t=7x4	♂	"	172-53-20-15 = 52

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coll. 6 Jan.; prob. died in flood 4 Jan.

	No.			
Skull only	272	null. ♀	Microtus californicus	141-47-20-14=30.0
"	273	emb. 2R2L ♀	"	151-45-19-14=36.5
"	274	Scars 2R3L ♀	"	149-45-20-15=34.0
"	275	T=2.5×1.5 ♂	"	99-27-16-9=11.0
"	276	T=8×4 ♂	"	177-54-21-15=46.5
"	277	T=7×4 ♂	"	171-55-21-15=44.5
"	278	T=8×5 ♂	"	168-55-20-15=42.5
"	279	T=8×5 ♂	"	164-55-21-15=37.0
"	280	T=8×5 (R only; L degenerated) ♂	"	163-54-20-14=49.0
"	281	T=6.4 (L; R missing) ♂	"	171-54-22-15=39.0
"	282	null. ♀	"	97-27-16-9=10.5
"	283	gonads eaten ?	"	— - — -18-11=20.0
"	284	T=3×2 ♂	"	114-35-18-13=12.5
"	285	T=3×2 ♂	"	113-38-19-13=20.0
"	286	Emb. 2R0L ~4mm. ♀	"	156-50-21-15=37.7
"	287	emb 1R2L ♀	"	159-45-19-16=44.0
"	288	null. ♀	"	96-24-16-9=11.0
"	289	emb. 2R2L ~5mm. ♀	"	148-46-20-15=33.5
"	290	emb. 2R1L ~6mm. ♀	"	144-50-20-14=29.0
"	291	T=7×5 ♂	"	160-48-20-15=49.0
"	292	null. ♀	"	144-50-20-14=27.5
"	293	Scars 3R2L ♀	"	157-48-21-15=34.5
"	294	emb. 2R2L ~5mm ♀	"	153-41-20-14=33.5
"	295	Scars 2R2L ♀	"	153-49-21-13=35.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Condition	Sex	Species	Measurements
skull only	296	T=5x4	♂	Microtus californicus	139-46-20-14=28.5
"	297	null.	♀	"	94-24-15-10=9.5
"	298	T=5x3	♂	"	147-45-19-14=27.5
"	299	null.	♀	"	151-46-21-14=27.5
"	300	null.	♀	"	147-45-20-14=28.5
"	301	T=7x5	♂	"	178-54-22-17=50.0
"	302	T=7x5	♂	"	174-53-22-15=47.0
"	303	null.	♀	"	148-44-20-14=35.0
"	304	Scars 2R1L	♀	"	157-44-21-16=39.5
"	305	Scars 1R3L	♀	"	168-56-20-15=41.0
"	306	emb. 1R2L~17mm.	♀	"	146-41-20-15=36.0
"	307	null.	♀	"	127-40-20-13=20.0
"	308	emb. 2R3L~18mm.	♀	"	153-45-19-15=41.0
"	309	Scars 2R2L	♀	"	139-48-20-14=29.5
"	310	Scars 3R1L	♀	"	156-47-21-16=37.5
"	311	T=4x3	♂	"	157-51-21-15=35.0
"	312	T=4x2	♂	"	125-40-19-13=21.5
"	313	null.	♀	"	114-31-18-—=12.0
"	314	Scars 2R1L	♀	"	142-45-20-14=30.0
"	315	emb. 2R2L~18mm.	♀	"	168-55-20-15=46.0
"	316	T=6x4	♂	Reithrodontomys megalotis	132-75-15-11=10.5
"	317	emb. 3R1L~6mm.	♀	"	133-70-15-12=9.5
"	318	T=2x1	♂	"	92-47-14-9=4.0
"	319	null.	♀	"	141-74-15-12=9.0

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coll. 6 Jan.; prob died in flood 4 Jan.

skull only	320	T=5x3 ♂	Reithrodontomys megalotis	149-78-16-13=10.0
"	321	—	"	135-76-16-13= —
"	322	null. ♀	"	142-76-16-13=8.5
"	323	Scars 2R2L ♀	"	146-75-17-13=10.5
"	324	Scars 2R1L ♀	"	144-76-16-12=10.0
"	325	T=6x4 ♂	"	135-69-16-12=8.5
"	326	T=6x4 ♂	"	146-79-16-13=10.5
"	327	Scars 1R1L ♀	"	143-73-16-13=8.5
"	328	Scars 3R1L ♀	"	108-35 (BROKEN)-17-13=10.5
"	329	T=2x3 ♂	"	136-66-16-12=7.0
"	330	T=5x3 ♂	"	141-66-17-13=8.5
"	331	parous uterus dark ♀	"	137-78-16-13=10.0
"	332	T=2x1 ♂	"	102-56-14-11=4.5
"	333	null. ♀	"	134-69-16-12=9.5
"	334	null. ♀	"	138-69-75-13=9.0
"	335	Scars 0R2L ♀	"	143-75-16-13=9.5
"	336	♀	"	139-74-16-13=9.5
"	337	emb. 1R2L ~13mm ♀	"	140-73-15-13=8.5
"	338	T=3x2 ♂	"	115-60-15-12=6.5
"	339	T=3x2 ♂	Peromyscus maniculatus	111-44-16-9=6.0
"	340	T=3x2 ♂	"	117-54-20-13=9.5
"	341	T=3x2 ♂	"	117-50-17-12=7.5
"	342	T=4x3 ♂	Reithrodontomys megalotis	141-75-16-13=9.0
"	343	null ♀	"	138-71-15-12=7.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

Skull only	344	Scars 0R3L ♀	Reithrodontomys megalotis	147-76-16-13=12.5
"	345	Scars 1R2L ♀	"	156-86-16-16=11.5
"	346	Scars 1R3L ♀	"	136-75-16-13=10.0
"	347	T=4x2 ♂	"	147-81-16-14=9.0
"	348	Scars 3R2L ♀	"	135-69-15-13=10.5
"	349	T=7x5 ♂	"	147-80-16-14=10.0
"	350	Scars 1R1L ♀	"	151-80-16-13=9.5
"	351	T=6x4 ♂	"	134-73-16-—=6.5
"	352	null. ♀	"	124-66-16-13=5.5
"	353	Scars 2R1L ♀	"	144-80-16-14=11.5
"	354	T=5x3 ♂	"	138-74-16-13=10.0
"	355	T=4x3 ♂	"	139-74-16-13=9.0
"	356	T=3x2 ♂	"	144-76-16-13=8.5
"	357	null. ♀	"	117-65-16-12=5.5
"	358	Scars 0R2L ♀	"	150-80-16-14=10.5
"	359	T=4x3 ♂	"	152-84-16-13=10.0
"	360	T=5x3 ♂	"	151-82-17-13=10.0
"	361	Scars 1R2L ♀	"	154-80-16-13=11.0
"	362	null. ♀	"	138-73-15-14=9.0
"	363	T=2x1 ♂	"	118-64-16-12=5.5
"	364	—	"	will NOT be saved
"	365	T=6x4 ♂	"	143-75-16-13=11.0
"	366	T=5x3 ♂	"	151-84-16-13=10.5
"	367	T=4x3 ♂	"	142-76-16-13=8.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

skull only	368	null. ♀	Reithrodontomys megalotis	116-66-16-11 = 5.5
"	369	null. ♀	Microtus californicus	101-28-16 — = 5.5
"	370	T = 6x3 ♂	Sorex vagrans	103-38-11-7 = 5.5
"	371	null. ♀	Reithrodontomys megalotis	128-69-16-12 = 7.5
"	372	null ♀	"	139-74-16-14 = 9.5
"	373	T = 3x2 ♂	"	127-69-16-13 = 5.5
"	374	T = 6x4 ♂	"	136-74-16-13 = 8.5
"	375	null. ♀	"	128-65-15-13 = 8.0
"	376	scars 1R 3L ♀	"	145-73-16-14 = 12.5
"	377	T = 2x1.5 ♂	"	86-38-13-8 = 4.0
"	378	T = 2x1.5 ♂	"	120-64-15-12 = 6.0
"	379	null. ♀	"	137-74-17-14 = 8.5
"	380	null ♀	"	135-70-15-12 = 8.5
"	381	null. ♀	"	142-73-16-13 = 8.5
"	382	null. ♀	"	147-78-16-13 = 8.5
"	383	T = 5x3 ♂	"	138-78-16-14 = 10.0
"	384	T = 4x3 ♂	"	144-77-17-14 = 9.5
"	385	T = 3x2 ♂	"	124-69-16-13 = 7.0
"	386	T = 6x4 ♂	"	141-75-16-13 = 9.5
"	387	T = 5x3 ♂	"	137-73-16-13 = 9.5
"	388	null. ♀	"	145-76-17-14 = 8.5
"	389	— ♀	"	125-67-16 — = 4.0
"	390	—	"	not saved, yg. adult
"	391	emb. 2R 1L ~12mm ♀	"	140-75-16-13 = 11.5

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coll. 6. Jan.; prob. died in Flood 4 Jan.

skull only 392		Reithrodontomys megalotis	128-69-16—=—
" 393	null. ♀	"	138-74-16-13=9.5
" 394	T=4x2 ♂	"	140-72-15-14=10.0
" 395	T=5x3 ♂	"	138-77-16-14=10.5
" 396	null. ♀	"	130-72-16-13=8.5
" 397	null ♀	"	143-69-16-13=8.5
" 398	T=2x2 ♂	"	69-—16-13=7.5
" 399	T=4x2 ♂	"	132-68-15-13=10.0
" 400		"	148-79-16—=—
" 401	T=3x2 ♂	"	124-65-16-12=5.5
" 402	null. ♀	"	139-67-16-13=8.5
" 403	emb. 3ROL~CR=9mm ♀	"	143-68-17-14=11.0
" 404	T=7x5 ♂	"	145-70-16-14=10.0
" 405	T=5x4 ♂	"	154-77-17—=10.0
" 406	T=4x2 ♂	"	145-72-16-13=8.0
" 407	T=5x4 ♂	"	144-67-16-13=9.5
" 408	T=5x3 ♂	"	141-66-16-13=10.0
" 409	null. ♀	"	143-68-16-13=11.0
" 410	T=4x2 ♂	"	136-67-15-13=8.5
" 411	T=5x3 ♂	Sorex vagrans	100-36-12-8=5.0
" 412	T=4x3 ♂	"	99-35-11-7=5.0
" 413	null. ♀	"	94-36-12-6=4.5
" 414	T=4x3 ♂	"	96-35-11-7=4.0
" 415	null ♀	"	94-36-11-7=5.5

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skull only	416	T=4x2 ♂	Sorex vagrans	95-37-11-7=5.5
"	417	null. ♀	"	88-33-11-6=3.0
"	418	null. ♀	"	93-36-11-6=4.0
"	419	T=4x3 ♂	"	99-36-12-7=5.5
"	420	null. ♀	"	96-36-11-7=4.0
"	421	T=5x3 ♂	"	95-34-11-7=5.5
"	422	null. ♀	"	101-40-12-8=4.0
"	423	null. ♀	"	100-36-11-7=4.5
"	424	Scars 1R2L ♀	Reithrodontomys megalotis	146-79-16-13=12.0
"	425	T=6x4 ♂	"	140-75-15-13=9.5
"	426	T=4x2 ♂	"	145-79-15-13=9.5
"	427	emb. 2R2L ~18mm ♀	"	144-74-16-14=14.5
"	428	T=5x3 ♂	"	142-76-16-13=8.5
"	429	null. ♀	"	124-66-15-13=7.5
"	430	Scars 2R1L ♀	"	156-85-17-14=10.0
"	431	♀	"	147-78-16— =6.0
"	432	null ♀	Peromyscus maniculatus	139-60-19-15=14.0
"	433	T=3x2 ♂	"	114-48-17-14=9.5
"	434	null. ♀	Scapanus latimanus	165-28-20— =68.0
"	435	Swellings 1R1L ♀	"	172-27-21— =86.0
"	436	swellings 1R2L ♀	"	165-31-20— =76.0
"	437	T=11x7 ♂	"	166-30-20— =98.0
"	438	T=7x5 ♂	Peromyscus maniculatus	147-63-19-14=18.0
"	439	T=7x4 ♂	"	144-66-19-15=18.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Notes / Sex	Species	Measurements
skull only	440	emb. 2R1L ~14mm. ♀	Peromyscus maniculatus	162-73-19-16=24.5
"	441	T=10x6 ♂	"	153-65-18-14=19.0
"	442	T=6x4 ♂	"	146-68-19-16=14.5
"	443	T=9x5 ♂	"	160-70-20-15=20.5
"	444	emb. 5R0L ~12mm. ♀	"	157-74-19-15=23.5
"	445	null. ♀	"	124-60-19-14=10.0
"	446	T=9x5 ♂	"	156-69-19-15=19.5
"	447	T=8x6 ♂	"	149-68-18-16=19.0
"	448	T=7x5 ♂	"	156-73-20-16=20.0
"	449		Microtus californicus	153-38-22-16= ——
"	450	null ♀	"	149-40-19-12=25.0
"	451	Scars 6R3L ♀	"	161-39-20-14=32.0
"	452	null. ♀	"	161-42-22-15=30.0
"	453	emb. 1R3L CR=9mm ♀	"	170-46-21-15=35.5
"	454	Swell. 2R2L ♀	"	158-42-20-14=29.0
"	455	T=4x3 ♂	"	132-34-20-13=19.5
"	456	T=6x4 ♂	"	182-52-22-16=46.0
"	457	T=5x3 ♂	"	149-38-21-13=27.0
"	458	Scars 2R3L ♀	"	163-42-21-15=32.0
"	459	T=6x4 ♂	Peromyscus maniculatus	147-64-19-15=17.0
"	460	T=3x2 ♂	"	132-57-19-15=11.0
"	461	null. ♀	"	138-61-19-15=6.0
"	462	Scars 4R1L ♀	"	165-79-20-17=20.0
"	463	Scars 2R2L ♀	"	162-74-19-17=17.5

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coll. 6 Jan.; prob. died in flood 4 Jan.

	No.		Species	Measurements
skull only	464	T=6x4 ♂	Peromyscus maniculatus	158-75-20-17=16.5
"	465	Scars 1R3L ♀	"	157-70-19-17=20.0
"	466	Scars 4R0L ♀	"	154-73-19-17=17.0
"	467	null. ♀	"	154-73-19-16=14.5
"	468	Scars 2R3L ♀	"	170-82-20-16=20.5
"	469	null. ♀	"	154-70-20-15=13.5
"	470	T=4x3 ♂	Microtus californicus	135-39-19-14=24.0
"	471	T=4x3 ♂	"	122-36-19-11=17.0
"	472	T=4x3 ♂	"	141-38-19-14=25.0
"	473	emb. 1R2L ~10mm. ♀	"	154-47-20-14=31.5
"	474	null. ♀	"	120-34-18-11=14.0
"	475	emb. 3R3L ~21mm. ♀	"	160-43-20-15=44.5
"	476	T=6x4 ♂	"	166-51-21-14=40.0
"	477	null. ♀	"	116-32-17-11=16.5
"	478	Scars 2R2L ♀	"	165-50-20-14=36.5
"	479	T=7x5 ♂	"	175-51-20-15=48.5
"	480	T=6x4 ♂	"	165-52-21-15=36.5
"	481	emb. 2R2L ~16mm. ♀	"	164-50-19-15=35.0
"	482	T=2x1 ♂	"	85-22-14-8=10.0
"	483	Scars 2R 3L ♀	"	141-41-19-14=29.0
"	484	T=6x4 ♂	"	158-47-19-14=33.5
"	485	Scars 2R3L ♀	"	163-49-21-15=36.0
"	486	T=4x3 ♂	"	126-36-18-13=20.0
"	487	T=8x5 ♂	"	180-60-21-15=53.0

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coll. 6 Jan.; prob. died in flood 4 Jan

skull only 488	null. ♀	Microtus californicus		125-39-18-13=17.5
" 489	T=7x4 ♂	"		173-55-20-15=42.5
" 490	null. ♀	"		156-52-20-13=33.5
" 491	T=6x4 ♂	"		170-56-21-15=38.0
" 492	emb. 2R1L ~4mm, ♀	"		153-41-19-13=26.5
" 493	null. ♀	"		70-19-13-6=8.0
" 494	T=6x4 ♂	"		136-44-21-14=29.5
" 495	null. ♀	"		130-39-18-12=23.5
" 496	T=5x4 ♂	"		148-43-21-14=28.5
" 497	emb 1R-2L ~4mm, ♀	"		150-51-18-14=32.5
" 498	Scars 3R3L ♀	"		152-45-20-15=29.5
" 499	emb 0R2L ~12mm. ♀	"		163-52-20-15=37.5
" 500	T=5x3 ♂	"		146-41-18-14=23.5
" 501	T=6x4 ♂	"		160-48-20-15=43.5
" 502	Scars 1R2L ♀	"		153-50-19-14=33.5
" 503	Scars 1R2L ♀	"		169-54-20-15=39.0
" 504	null. ♀	"		144-42-20-13=25.0
" 505	null ♀	"		128-38-19-13=18.0
" 506	null ♀	"		106-30-18-10=12.0
" 507	T=3x2 ♂	"		134-38-19-14=19.0
" 508	null ♀	"		123-36-18-13=15.0
" 509	null ♀	"		108-30-17-11=13.5
" 510	Scars 5R4L ♀	"		165-52-20-15=36.0
" 511	♂	"		160-50-20-15=37.0

E. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Sex / notes	Species	Measurements
skull only	512	null. ♀	Microtus californicus	122-33-17-10=19.0
″	513	null ♀	″	104-30-16-10=10.0
″	514	T=2x2 ♂	″	124-36-18-13=19.0
″	515	T=2x2 ♂	″	113-33-18-11=14.5
″	516	Scars 3R 1L ♀	″	158-49-20-16=35.0
″	517	T=7x5 ♂	″	163-50-21-15=42.0
″	518	T=7x5 ♂	″	158-48-20-14=35.5
″	519	T=6x4 ♂	″	171-52-20-14=48.5
″	520	T=7x5 ♂	″	184-59-22-16=48.0
″	521	♀	″	165-47-21-15=—
″	522	emb 1R2L CR=7mm. ♀	″	167-45-22-15=38.5
″	523	Scars 2R1L ♀	″	170-45-20-15=38.5
″	524	T=7x5 ♂	″	178-49-22-15=43.0
″	525	Scars 2R1L ♀	″	148-38-19-14=30.5
″	526	emb. 1R2L CR=4mm Scars 3R2L ♀	″	153-39-21-15=27.5
″	527	♂	″	— — — —=—
″	528	T=4x3 ♂	″	142-38-20-14=25.0
″	529	null ♀	″	154-40-20-14=26.5
″	530	T=4x3 ♂	″	148-39-21-14=24.5
″	531	T=8x5 ♂	″	188-54-21-15=51.0
″	532	emb. 2R1L CR=5mm ♀	″	158-42-20-15=35.5
″	533	T=6x4 ♂	″	165-41-22-15=39.5
″	534	Scars 2R3L ♀	″	162-43-21-15=31.5
″	535	T=5x3 ♂	″	168-46-21-15=34.5

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Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Sex / remarks	Species	Measurements
Skull only	536	T=7x5 ♂	Microtus californicus	169-43-21-14=35.0
"	537	emb 3R1L CR=5mm ♀	"	168-44-21-15=38.0
"	538	Scars 3R4L ♀	"	158-43-20-14=34.5
"	539	emb. 4R1L CR=15 ♀	"	161-42-21-15=36.0
"	540	T=5x3 ♂	"	156-43-21-15=26.0
"	541	null. ♀	"	135-34-19-12=33.0
"	542	T=8x6 ♂	"	186-51-22-15=48.5
"	543	T=7x5 ♂	"	168-45-22-16=40.0
"	544	T=5x4 ♂	"	160-44-22-15=40.0
"	545	Scars 2R4L ♀	"	164-44-21-14=31.0
"	546	null ♀	"	140-36-20-14=25.5
"	547	T=3x2 ♂	"	130-35-20-13=22.0
"	548	emb 2R1L CR=12 ♀	"	174-46-20-16=48.0
"	549	T=5x3 ♂	"	155-28-21-14=28.0
"	550	null. ♀	"	156-40-22-15=27.0
"	551	—	"	Completely eaten
"	552	null ♀	"	117-28-18-11=12.0
"	553	Scars 3R1L ♀	"	155-41-20-14=29.0
"	554	T=6x4 ♂	"	170-52-20-15=39.0
"	555	null ♀	"	161-48-22-15=34.0
"	556	T=7x5 ♂	"	186-47-23-17=54.0
"	557	T=7x5 ♂	"	175-46-23-16=50.0
"	558	T=6x4 ♂	"	168-42-21-15=44.5
"	559	T=5x3 ♂	"	159-42-21-15=28.5

E. HESKE
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Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

	No.	Remarks	Sex	Species	Measurements
skull only	560	emb. 3R1L CR=5m	♀	Microtus californicus	161-43-20-14=30.0
"	561	Scars 2R1L	♀	"	178-48-22-16=45.0
"	562	Scars 3R1L	♀	"	162-43-19-15=35.0
"	563	Scars 3R2L	♀	"	161-43-21-15=33.5
"	564	T=7x5	♂	"	184-53-23-16=46.0
"	565	Swelling 1R2L	♀	"	167-44-21-16=36.0
"	566	emb. 3R1L CR=16 mm.	♀	"	157-41-20-15=40.5
"	567	T=6x4	♂	"	165-42-20-16=34.0
"	568	null.	♀	"	142-37-21-14=22.5
"	569	T=1.5x2	♂	"	116-29-20-12=13.5
"	570	null.	♀	"	115-30-20-12=13.5
"	571	T=6x4	♂	"	146-38-21-13=27.0
"	572	T=4x2	♂	"	157-45-22-15=32.0
"	573	Scars ØR2L	♀	"	165-42-21-14=34.5
"	574	T=4x2	♂	"	135-35-20-13=20.5
"	575	T=1.5x2	♂	"	121-32-19-12=13.5
"	576	T=8x6	♂	"	192-55-22—=42.0
"	577	null.	♀	"	134-33-20-13=18.5
"	578	T=6x5	♂	"	175-47-21-14=40.0
"	579	T=8x5	♂	"	163-46-22-16=42.0
"	580	T=7x5	♂	"	169-45-22-15=37.0
"	581	—		"	— — 21 — = —
"	582	emb. 2R1L CR.=7mm	♀	"	172-51-22-15=41.0
"	583	T=7x5	♂	"	178-46-22-15=43.5

E. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in Flood 4 Jan.

	No.	Notes	Sex	Species	Measurements
skull only	584	emb. 2R2L CR=19mm	♀	Microtus californicus	176-50-21-15=49.5
"	585	Scars 3R2L	♀	"	162-43-20-15=34.0
"	586	T=8x5	♂	"	175-48-21-15=47.5
"	587	emb. 1R1L CR=15	♀	"	158-41-21-14=41.0
"	588	T=6x4	♂	"	167-46-21-15=40.5
"	589	Scars 1R2L	♀	"	178-52-23-16=41.5
"	590	Scars 4R1L	♀	"	158-42-20-16=35.5
"	591	———		"	Completely eaten (skull only)
"	592	T=7x4	♂	"	173-46-22-15=46.0
"	593	T=7x4	♂	"	169-44-21-15=40.0
"	594	T=6x4	♂	"	173-48-22-15=41.0
"	595	null.	♀	"	161-43-21-14=28.5
"	596	T=6x4	♂	"	169-46-21-15=35.5
"	597	emb. 2R2L CR=5mm.	♀	"	159-43-20-14=30.0
"	598	null	♀	"	98-23-17-8=8.5
"	599	T=4x3	♂	"	136-33-19-13=17.5
"	600	T=3x2	♂	"	124-32-19-13=15.0
"	601	T=7x5	♂	"	175-43-21-15=42.5
"	602	T=5x4	♂	"	164-40-21-15=41.0
"	603	T=7x5	♂	"	181-50-21-15=43.0
"	604	T=6x4	♂	"	155-41-21-14=30.0
"	605	null	♀	"	149-35-22-14=27.0
"	606	null	♀	"	157-41-21-15=31.5
"	607	Scars 3R1L	♀	"	154-40-20-15=30.5

HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan. ; prob. died in Flood 4 Jan.

	No.	Notes / Sex	Species	Measurements
Skull only	608	Scars 3R4L ♀	Microtus californicus	151-38-20-14=29.0
"	609	null ♀	"	145-34-20-14=28.5
"	610	emb. 3R1L CR=12mm. ♀	"	160-39-20-15=30.0
"	611	emb. 3R1L CR=5mm. ♀	"	150-37-19-14=22.5
"	612	Scars 2R3L ♀	"	158-42-21-15=34.5
"	613	T=5x4 ♂	"	162-49-22-15=29.5
"	614	null. ♀	"	155-44-21-15=28.0
"	615	T=7x5 ♂	"	175-48-22-16=43.0
"	616	Scars 1R1L Swelling 1R2L ♀	"	160-43-20-16=36.0
"	617	null. ♀	"	133-34-20-13=19.0
"	618	null. ♀	"	151-39-21-15=29.0
"	619	T=5x4 ♂	"	152-41-21-15=31.0
"	620	emb. 3R2L CR=27mm. ♀	"	168-47-22-16=51.0
"	621	T=5x3 ♂	"	152-39-21-15=38.0
"	622	T=4x3 ♂	"	135-36-20-14=35.0
"	623	emb. 1R3L CR=4mm ♀	"	157-43-20-14=29.0
"	624	emb. 2R2L CR=6mm ♀	"	141-48-21-14=30.5
"	625	null. ♀	"	150-38-21-15=24.0
"	626	null. ♀	"	116-32-20-13=12.5
"	627	T=8x5 ♂	"	183-49-22-15=50.0
"	628	T=6x4 ♂	"	181-55-21-16=49.0
"	629	T=6x4 ♂	"	177-45-22-16=48.0
"	630	null. ♀	"	138-34-19-14=21.5
"	631	null. ♀	"	159-44-20-15=28.0

E. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob died in Flood 4 Jan.

skull only 632	T=7x5 ♂	Microtus californicus		192-53-22-17=47.0
" 633	emb. 2R1L CR=23 ♀	"		162-43-20-15=45.5
" 634	T=7x5 ♂	"		193-52-22-16=54.0
" 635	Scars 1R3L ♀	"		174-46-20-14=40.0
" 636	emb. 2RØL CR=14 mm. ♀	"		170-46-20-14=42.0
" 637	null. ♀	"		156-43-21-14=28.0
" 638	null. ♀	"		142-38-20-14=25.5
" 639	T=3x2 ♂	"		137-37-20-13=21.0
" 640	Scars 3R1L ♀	"		160-43-21— = —
" 641	null. ♀	"		110-25-19-13= —
" 642	T=7x5 ♂	"		158-37-20-14=42.0
" 643	Scars 3R2L ♀	"		155-37-20-14=31.0
" 644	T=8x6 ♂	"		192-54-22-15=58.0
" 645	T=7x5 ♂	"		182-54-22-16=46.0
" 646	emb. 1R2L, CR=8mm. ♀	"		162-48-21-14= —
" 647	T=6x4 ♂	"		164-41-22-15=36.5
" 648	emb. 1R3L, CR=5mm. ♀	"		164-44-21-15=40.0
" 649	null. ♀	"		153-41-21-15=27.0
" 650	null. ♀	"		149-38-20-14=26.0
" 651	T=7x5 ♂	"		186-54-22-16=47.0
" 652	T=6x4 ♂	"		154-41-20-14=34.0
" 653	Scars 2R2L ♀	"		160-42-20-15=34.0
" 654	T=7x5 ♂	"		162-33-22-15=44.5
" 655	emb. 1R2L, CR=30mm. ♀	"		153-40-20-14=38.5

E. HESKE

1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in Flood 4 Jan.

skull only 6656	emb. 3R0L, CR=5mm. ♀	Microtus californicus	162-40-21-14=35.0
" 6657	Scars 2R3L ♀	"	166-43-20-15=40.0
" 6658	Scars ØR3L ♀	"	153-42-20-14=29.5
" 6659	T=5x3 ♂	"	142-40-20-14=23.0
" 6660	null. ♀	"	158-44-21-14=29.0
" 6661	null. ♀	"	123-33-19-12=15.0
" 6662	T=5x3 ♂	"	168-47-22-15=36.0
" 6663	T=7x5 ♂	"	170-51-21-16=40.0
" 6664	T=9x6 ♂	"	178-47-23-16=45.0
" 6665	null. ♀	"	144-37-19-13=23.0
" 6666	null. ♀	"	151-42-20-14=24.0
" 6667	T=3x2 ♂	"	123-34-20-14=16.0
" 6668	null. ♀	"	124-33-19-13=16.0
" 6669	emb. 3R2L Cr=9mm. ♀	"	143-42-21-14=38.0
" 6670	null. ♀	"	99-23-16-9=10.0
" 6671	null. ♀	"	121-31-19-12=16.0
" 6672	T=7x5 ♂	"	180-55-21-15=40.0
" 6673	emb. 2R1L Cr=30mm. ♀	"	179-49-21-15=52.0
" 6674	T=7x5 ♂	"	172-43-21-15=47.0
" 6675	T=6x4 ♂	"	180-56-22-16=45.0
" 6676	Scars 3R2L ♀	"	174-48-21-15=40.0
" 6677	emb. 3R1L Cr=3mm. ♀	"	168-45-21-15=36.0
" 6678	Scars 1R2L ♀	"	147-35-20-14=29.0
" 6679	Scars 2R3L ♀	"	168-~~45~~-20-14=37.0

G. HESKE
1982

Calalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob died in flood 4 Jan.

skull only	680	Scars 2R1L	♀	Microtus californicus	125—20-16=41.0
"	681	T=5x3	♂	"	169-46-21-15=39.0
"	682	null.	♀	"	154-41-21-15=27.5
"	683	Scars 4RØL	♀	"	162-39-20-14=37.0
"	684	T=5x3	♂	"	172-48-21-15=39.0
"	685	Scars 3R1L	♀	"	170-48-21-15=38.0
"	686	Scars 2R1L	♀	"	156-44-20-14=33.0
"	687	null.	♀	"	137-37-20-13=22.0
"	688	T=7x5	♂	"	174-46-21-15=46.0
"	689	T=8x6	♂	"	192-54-23-16=64.0
"	690	emb. 2R3L, CR=5mm.	♀	"	156-41-20-15=31.5
"	691	Scars 1R1L	♀	"	168-45-21-15=38.0
"	692	Scars 1R1L	♀	"	162-42-21-15=29.5
"	693	null.	♀	"	116-29-18-11=11.5
"	694	T=3x2	♂	"	130-35-20-12=17.0
"	695	null.	♀	"	110-26-18-11=9.0
"	696	T=3x2	♂	"	142-40-21-14=23.5
"	697	T=2x1.5	♂	"	110-31-17-11=10.5
"	698	T=7x5	♂	"	180-56-22-16=46.0
"	699	emb. 3RØL CR=17mm.	♀	"	152-42-21-15=36.0
"	700	null.	♀	"	139-34-20-13=23.0
"	701	Swelling 1R 2L	♀	"	141-37-20-14=28.0
"	702	Scars 4R2L	♀	"	163-46-21-15=39.0
"	703	Scars 2R1L	♀	"	151-36-20-15=27.5

. HESKE
1982

Catalogue

Salinas River Wildlife Refuge, Monterey Co., California

coll. 6 Jan.; prob. died in flood 4 Jan.

skull only 704	emb: 3R1L; Cr=5mm. ♀	Microtus californicus		156-40-20-15=29.0
" 705	null. ♀	"		140-38-20-14=23.0
" 706	null. ♀	"		120-30-19-13=15.5
" 707	null. ♀	"		102-28-17-12=11.0
" 708	T=7X5 ♂	"		178-52-21-15=42.5
" 709	null. ♀	"		159-41-21-14=31.5
" 710	T=6x4 ♂	"		183-49-21-15=47.0
" 711	Scars 1R3L ♀	"		156-41-20-15=35.5
" 712	T=7X5 ♂	"		159-42-21-15=35.0
" 713	Scars ØR3L ♀	"		169-42-21-15=37.0
" 714	T=3x2 ♂	"		138-41-21-14=21.0
" 715	Scars 1R3L ♀	"		157-42-21-15=32.0
" 716	null. ♀	"		151-40-21-15=28.0
" 717	null. ♀	"		123-31-19-14=20.0
" 718	null. ♀	"		134-36-21-13=18.0

E. Heske
1982

Catalog

2.2 km E (by rd) Trinidad, San José Prov., Costa Rica 2600m

17 July

719 Mustela frenata ♀ nulliparous + skeleton, + tissue 317-116-38-17=95g

Heske, E.J.

1979

Journal

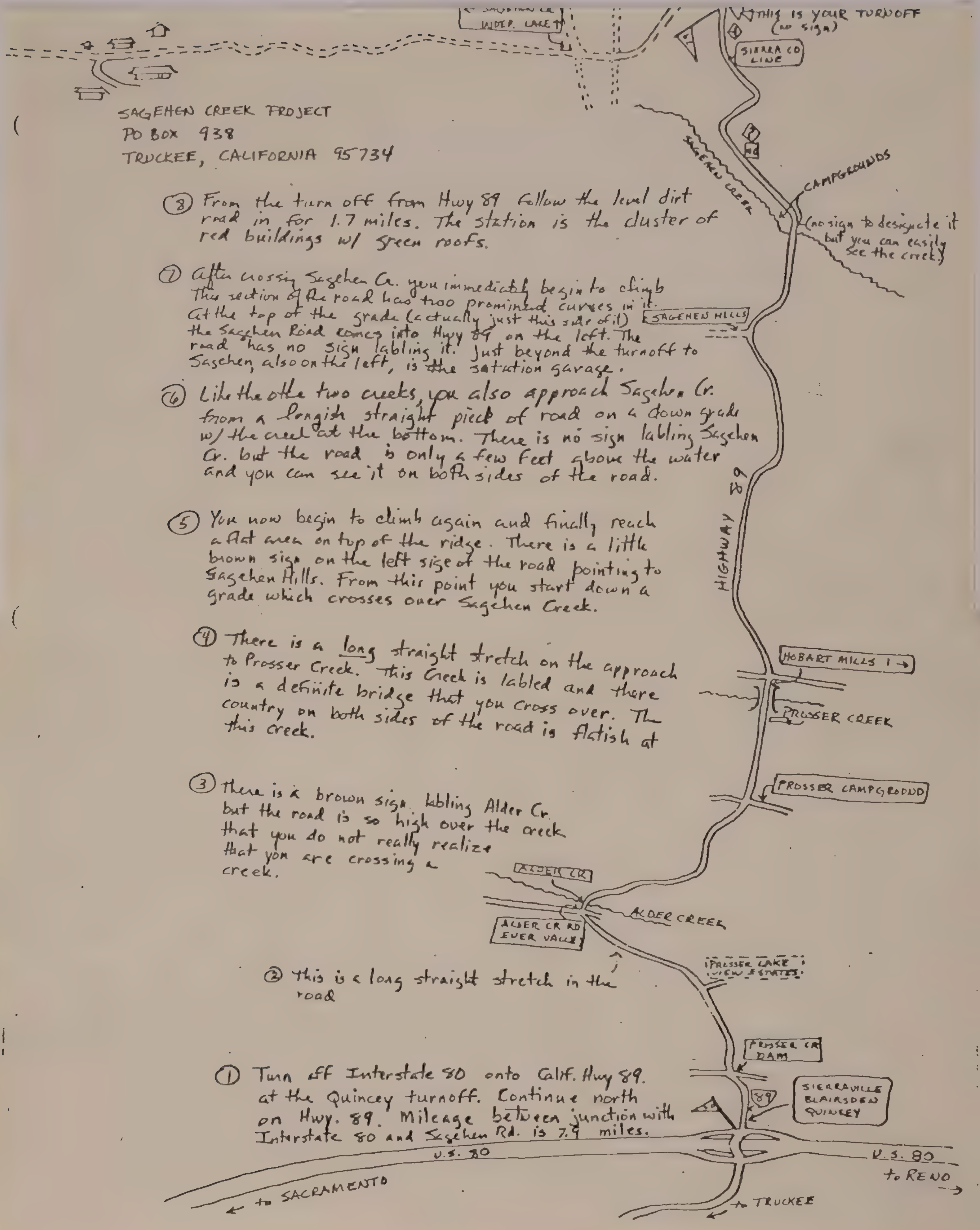
Calif.

E. Heske
1979

Journal

5 October — Sagehen Creek Field Station (SCFS) and vicinity, Nevada Co., California

Left SCFS (0.0 mi) at 1700 to set traps. ~15°C, 0 wind, high thin clouds forming after clear afternoon. Proceeded E for 0.9 mi to meadow and forest sites. After short discussion with Jim about what species to expect, teamed with Rick Ostfeld and drove 0.1 mi further E to chapparal site. Site characterized by dense manzanita brush up to 1m. high, frequent fallen logs, and scattered young Jeffrey pine up to 3m. high. Slope ~30° facing S. Top of ridge had unstabilized rocky talus and crown of mature Jeffrey pine. Total area of site ~250m x 300m, bounded by forest. 25 Museum special snaptraps set at ~10m. intervals in direct line up slope, baited with peanut butter and oatmeal. When possible, traps were set along fallen logs or under pine saplings. Traps 1-17 in manzanita brush, 18-19 in manzanita/talus edge, 20-25 in forest/rocky talus edge. 1 ♀ Eutamias amoenus was found caught in trap #1 when returning down line at 1820. Trap was reset. Set 25 Museum special snaptraps, pb+oat bait, ~10m. apart in grassy meadow on S. side of slow-moving stream 2-4m. wide. N. side of stream had nearby rock field with abundant sign (scat and marking) of Neotoma cinereus. Rick and I set the snaptraps in vole runways when possible, but increasing darkness made it difficult. Jim and several members of the class had set 8 Tomahawk



SAGEHEN CREEK PROJECT
PO BOX 938
TRUCKEE, CALIFORNIA 95734
INDEP. LAKE
THIS IS YOUR TURNOFF (no sign)
SIERRA CO LINE
SAGEHEN CREEK
CAMPGROUNDS
(no sign to designate it but you can easily see the creek)
⑧ From the turn off from Hwy 89 follow the level dirt road in for 1.7 miles. The station is the cluster of red buildings w/ green roofs.
⑦ After crossing Sagehen Cr. you immediately begin to climb. This section of the road has two prominent curves in it. At the top of the grade (actually just this side of it) the Sagehen Road comes into Hwy 89 on the left. The road has no sign labling it. Just beyond the turnoff to Sagehen, also on the left, is the station garage.
SAGEHEN HILLS
⑥ Like the other two creeks, you also approach Sagehen Cr. from a longish straight piece of road on a down grade w/ the creek at the bottom. There is no sign labling Sagehen Cr. but the road is only a few feet above the water and you can see it on both sides of the road.
HIGHWAY 89
⑤ You now begin to climb again and finally reach a flat area on top of the ridge. There is a little brown sign on the left side of the road pointing to Sagehen Hills. From this point you start down a grade which crosses over Sagehen Creek.
④ There is a long straight stretch on the approach to Prosser Creek. This Creek is labled and there is a definite bridge that you cross over. The country on both sides of the road is flatish at this creek.
HOBART MILLS 1 →
PROSSER CREEK
PROSSER CAMPGROUND
③ There is a brown sign labling Alder Cr. but the road is so high over the creek that you do not really realize that you are crossing a creek.
ALDER CR
ALDER CREEK
ALDER CR RD
EUER VALLEY
PROSSER LAKE VIEW ESTATES
② This is a long straight stretch in the road
PROSSER CR DAM
① Turn off Interstate 80 onto Calif. Hwy 89. at the Quincey turnoff. Continue north on Hwy. 89. Mileage between junction with Interstate 80 and Sagehen Rd. is 7.9 miles.
89
SIERRAVILLE
BLAIRSDEN
QUINCEY
U.S. 80
U.S. 80
to RENO →
← to SACRAMENTO
to TRUCKEE

E. Heske
1979

Journal

Dctober, cont. Sagehen Creek Field Station, Nevada Co., California

live traps with pb+oat bait in the rock field, and had already caught 1 ♀ N. cinereus by the time we finished. 1930. Returned to SCFS.

Checked traps by headlight at 2300 after short demonstration of various trap types by JLP.

Meadow: 1 ♀ Peromyscus maniculatus in trap #21, willow saplings and tall grass near stream.

1 ♂ N. cinereus was also caught in the rock field.

Chapparal: ♂ P. maniculatus in trap #3, ~~chapparal~~ brush
♀ E. amoenus in trap #6, brush
♀ P. maniculatus in trap #7, under 8' pine sapling in brush
♀ P. maniculatus in trap #24, rocky talus under pines near top, lots of needles covering ground.

trap #25 sprung, bait stolen – trap placed in rocky crevice near Neotoma sign.

Returned to SCFS ~2400.

[O]ctober Sagehen Creek Field Station and vicinity, Nevada Co., California

Checked traps 0820. Night T° low about 40°F (4°C). 0 wind, 50% clouds. Near full moon

Meadow: 1 ♀ Microtus montanus in trap #15, streamside in grass near fallen log

Chapparal: ♂ P. maniculatus in trap #11, along log
♂ P. maniculatus in trap #19, edge brush and talus

Directions to SCFS.

E. Heske
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October, cont. Sagehen Creek Field Station, Nevada Co., California

live traps with pb+oat bait in the rock field, and had already caught 1 ♀ N. cinereus by the time we finished. 1930. Returned to SCFS.

Checked traps by headlight at 2300 after short demonstration of various trap types by JLP.

Meadow: 1 ♀ Peromyscus maniculatus in trap #21, willow saplings and tall grass near stream.

1 ♂ N. cinereus was also caught in the rock field.

Chapparal: ♂ P. maniculatus in trap #3, ~~chapparal~~ brush
♀ E. amoenus in trap #6, brush
♀ P. maniculatus in trap #7, under 8' pine sapling in brush
♀ P. maniculatus in trap #24, rocky talus under pines near top, lots of needles covering ground.

trap #25 sprung, bait stolen – trap placed in rocky crevice near Neotoma sign.

Returned to SCFS ~2400.

ctober Sagehen Creek Field Station and vicinity, Nevada Co., California

Checked traps 0820. Night T° low about 40°F (4°C). 0 wind, 50% clouds. Near full moon

Meadow: 1 ♀ Microtus montanus in trap #15, streamside in grass near fallen log

Chapparal: ♂ P. maniculatus in trap #11, along log
♂ P. maniculatus in trap #19, edge brush and talus

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6 October, cont. SCFS and vicinity, Nevada Co., California

♂ Eutamias quadrimaculatus in trap # 21, rocky slope in mature Jeffry pines near top

All traps collected and brought back to SCFS. Trap # 25 lost: string gnawed through or broken, possibly by a N. cinereus.

Summary of captures:

Meadow: 1 P. maniculatus, ♀
1. M. montanus ♀
Chapparal: 5 P. maniculatus, 3♂ 2♀
2. E. amoenus, 2♀
1 E. quadrimaculatus ♂

additional species caught: Sorex vagrans in meadow

1 E. amoenus found dead under willows in meadow near SCFS, wounded on lower jaw.

Spent rest of morning preparing study skins.

People trapping at above sites:

James L. Patton, Nancy Joste, Dennis Armatis, Tony , Rick Ostfeld, Bill

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6 October cont. SCFS, Nevada Co, to 1.6 mi N. Chilcoot, Plumas Co., California and return.

Left SCFS ~1500 for trap site in Great Basin Desert. 0 wind, ~15°C, clear. Turned E for 1.9 mi, then proceded N on HWY 89. After 14.6 mi, turned N on HWY 49 at Sierraville, crossed county line to Plumas Co. after 16.5 mi and continued N for 7.2 mi, turning E on HWY 70. Proceded for 2.1 mi to Chilcoot and turned N onto Frenchman Lake Rd. Drove N for 1.6 mi then stopped alongside road at desert site. Site was soft sand flat leading to rocky buttes. Dominant shrubs were Artemesia tridentata, Chrysothamnus nauseosus, Ch. viscidiflorus, and scattered Purshia tridentata. Oryzopsis was the dominant groundcover although some Salsola kali was noted. 25 Museum special snaptraps with pb+oat bait were set in a line heading E from the road, ~10 m. apart. Traps were set in the open near shrubs where fresh tracks could be observed. Rabbit sign and rodent tracks were abundant. Returned to SCFS, ~1900. After dinner several people in the class walked down to the meadow site to check 4 mist nets Dixie had set across the stream. No captures. Castor canadensis activity was observed along the stream in the form of dams and occaisional tree-gnawing scars. Full moon.

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7 October SCFS, Nevada Co, California to 1.6 mi N. Chilcoot, Plumas Co. California, and return.

0 wind, 100% clouds. Light rain at ~0300. Night was warm, ~10°C, after clouds gathered. Cooler and clear with a full moon at 2400 when I went to sleep. Left SCFS for desert site at 0550, arriving at 0655. Checked traps:

6 Peromyscus maniculatus 3♂ 3♀, 1 pregnant
5 Microdipodops megacephalus 2♂, 3♀
1 had been partly eaten while in trap
2 Dipodomys ordii 1♂ 1♀
1 Perognathus parvus ♀
1 Reithrodontomys megalotis ♂
1 Eutamias minimus ♀

also captured: Dipodomys panamintinus on sand flats, Neotoma cinereus on rocky hills. % success = 16/25 = 64%, plus 5 more traps sprung. Kurt Schwenk saw a Sylvilagus sp. (probably nuttallii ?). A roadkill ♀ Erithrizon dorsatum was found S. of Chilcoot on the return to SCFS. Spent the rest of the morning putting up study skins and left SCFS for Berkeley at ~1400.

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insert

UCB, Alameda Co., California

Animals not put up as study skins on the previous field trip (Sagehen Cr. Fld. Sta.) were autopsied on 27 November. The following data were recorded:

captured on 6 October at Chaparral site, 1.1 mi NE Sagehen Cr. Fld. Sta., TS 18N, R16E, S5, Nevada Co., California:

t=5mm
♂ Peromyscus maniculatus 139-63-18-17=17.2g trap # 1
t=4mm
♂ P. maniculatus 149-65-18-15 = 13.5g trap # 3
scars 3R 2L
♀ P. maniculatus 118-31-18-16 = 16.2g trap # 7
t=4mm
♂ P. maniculatus 150-60-17-16 = 20.5g trap # 19
lactating
♀ P. maniculatus 154-67-20-17 = 15.0g trap # 21
scars 4R-2L
♀ P. maniculatus 179-80-20-18 = 21.3g trap # 24

(autopsied by R. Ostfeld)

captured on 7 October at Desert site, 1.6 mi N Chilcoot, T23N, R16E, S25, Plumas Co., California:

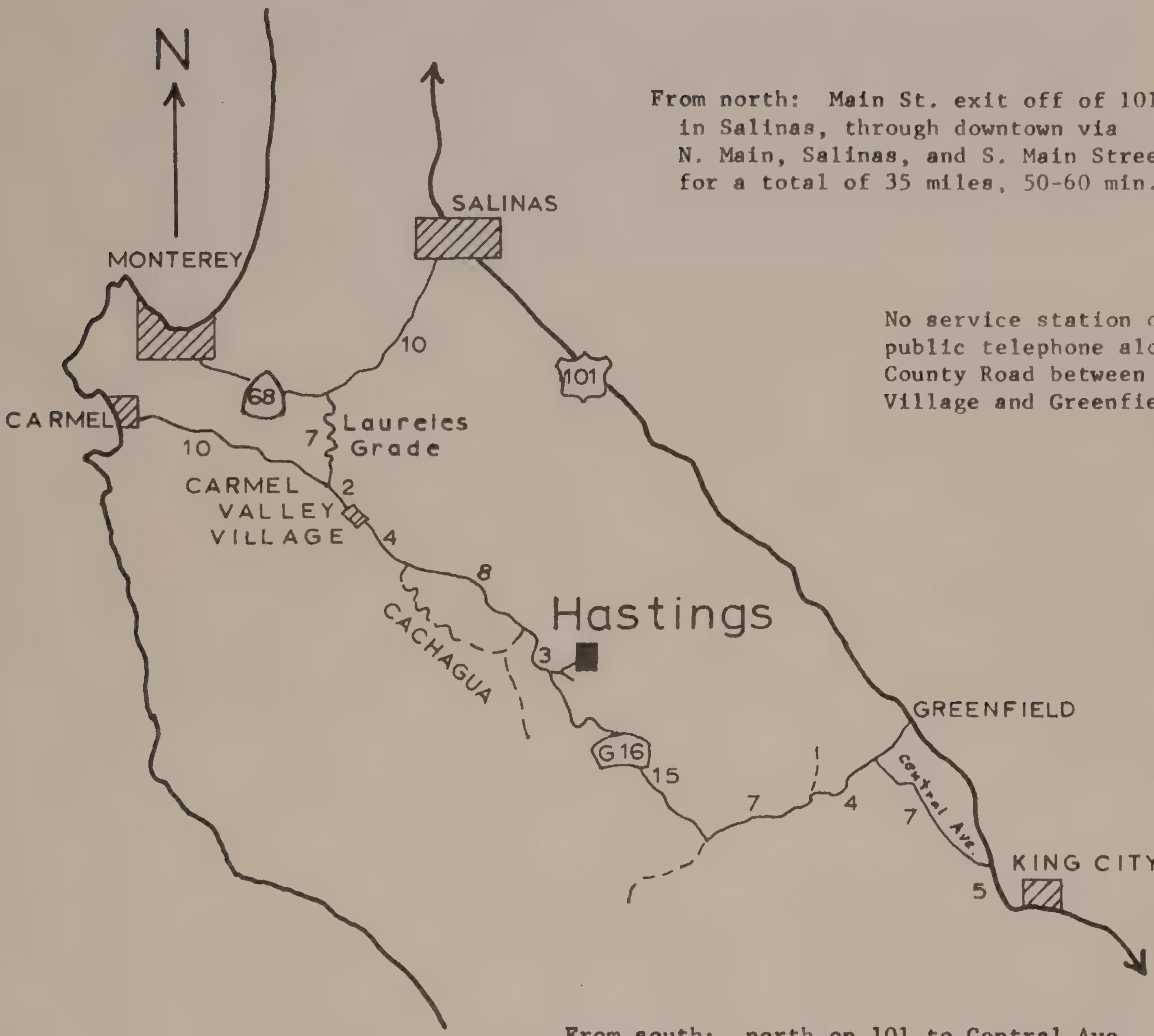
t=8mm
♂ Dipodomys ordii 461-263-40-11 = 44.4g botfly on back
t=7mm
♂ Peromyscus maniculatus 151-65-18-17 = 18.6g
embryos 3R 2L
♀ P. maniculatus 138-58-18-16 = 15.6g very early stage in pregnancy
embryos 3R 2L
♀ P. maniculatus 159-62-18-17 = 30.0g nipples present; late in pregnancy → crown-rump of embryos = 23mm
t=7mm
♂ P. maniculatus 159-71-18-18 = 19.9g
scars 4R 2L
♀ P. maniculatus 160-69-18-17 = 18.0g
t=5mm
♂ P. maniculatus 151-65-18-17 = 15.8g

Hastings Natural History Reservation
Museum of Vertebrate Zoology
University of California, Berkeley

Address:
Hastings Reservation
Star Route Box 80
Carmel Valley, Ca. 93924

Phone: Office 408 659-2664

J. Davis residence 408 659-2672
J. Griffin residence 408 659-2639



From north: Main St. exit off of 101 in Salinas, through downtown via N. Main, Salinas, and S. Main Streets, for a total of 35 miles, 50-60 min.

No service station or public telephone along County Road between C.V. Village and Greenfield.

From south: north on 101 to Central Ave., Arroyo Seco and Jamesburg Roads for a total of 39 miles from King City, 60 min.

At junction of Carmel Valley Rd. (County Rd G 16) and Martin Rd. (dirt) there is a Hastings sign by a large sycamore tree -- turn onto Martin Rd., cross creek, and enter gate on left, office is one mile from gate.

9/25/75

Directions to HNHR

Heske
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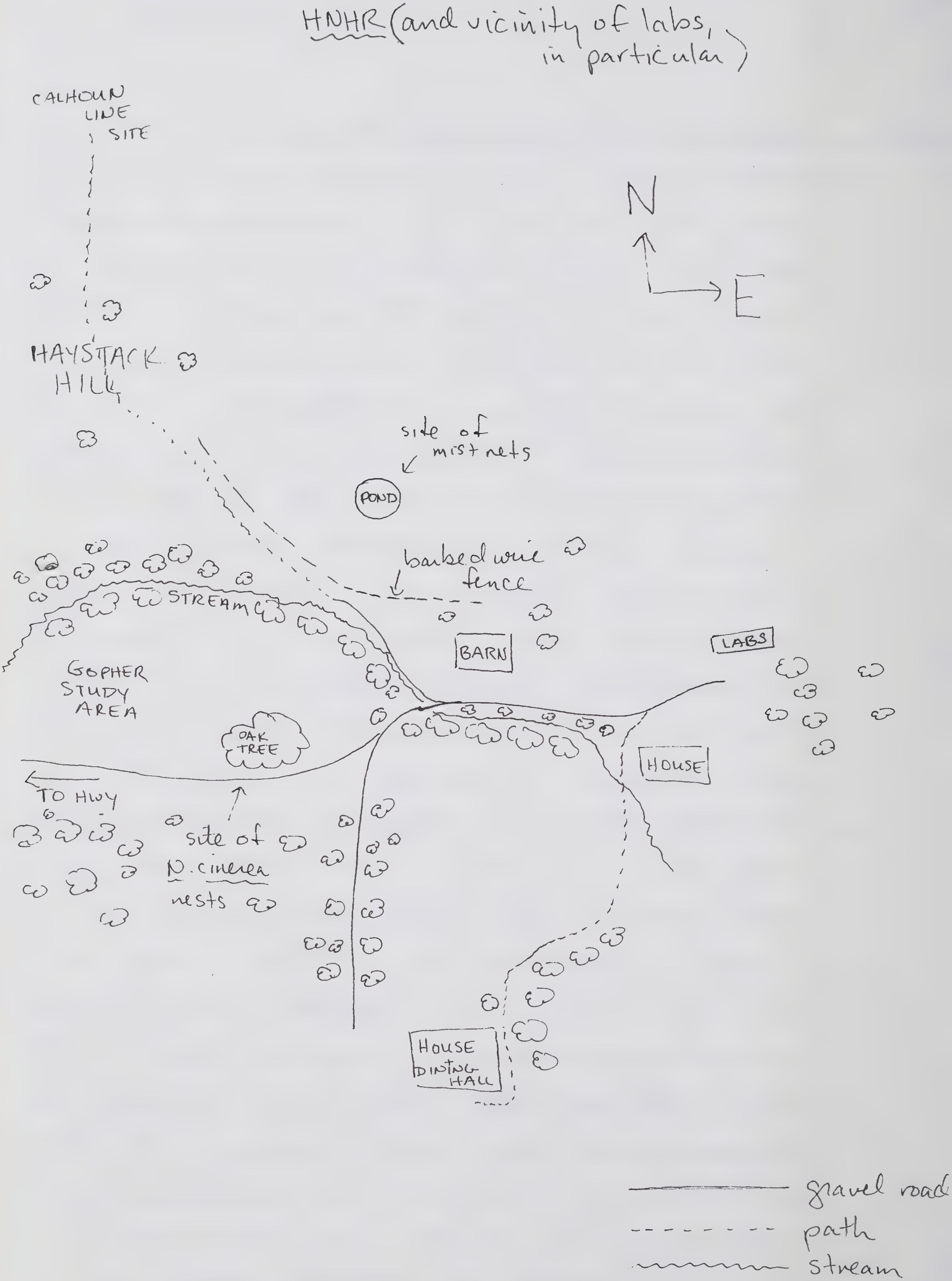
Journal

November

Hastings Nat. Hist. Res., Carmel Valley, Monterey Co., California
Arrived at HNHR ~1530. 50% cloud cover after clear morning, clouds increasing. ~18°C. Immediately upon arrival Jim led Stefan, Eric, Bill, Kurt, Barb, Nancy J., Steve and I W from the lab to Haystack Hill, elev. 2000 ft. A Calhoun line had been permanently established on the S slope of the westernmost ridge in dense *Adenostoma* chaparral. The line consisted of a series of 10 stakes (1-10) spaced 20m apart running down the slope from the edge of the chaparral, 10 stakes (11-20) running W along the chaparral/grass interface, and 15 stakes (21-35) running down the slope again ~300m W of the first series of 10. 3 Museum Special snaptraps baited w/ peanut butter were set w/in 2m of each stake. Kurt Schwenk and I teamed to set the edge series. The site consisted of an E-W ridge with dense *Adenostoma* ~1.5m high on the steep (45-60°) S slope and a grassland of mostly *Avena* along the top and N slope. *Quercus* sp. was scattered through most of the grassy areas. Much *Thomomys bottae* activity was noticeable throughout the grassy areas as well, and at the lower elev. *Spermophilus beecheyi* was frequently observed. A dead *S. beecheyi* at the lab had 4 acorns in its cheeks. Finished setting traps ~1630. Now fully overcast. Jim showed Kurt + I some skull fragments of a *Neotoma cinerea* that were in some old *Lynx* scat. Followed Jim down to his gopher study area (see map). He pointed out


HNHR (and vicinity of labs, in particular)
CALHOUN LINE SITE
N
E
HAYSTACK HILL
site of mist nets
POND
barbed wire fence
STREAM
BARN
LABS
GOPHER STUDY AREA
OAK TREE
HOUSE
TO HWY
site of N. cinerea nests
HOUSE DINING HALL
gravel road
path
stream

E. Heske
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Journal

Nov. cont. HNHR, Carmel Valley, Monterey Co., California

several *Neotoma cinerea* nests along the stream bank on the N edge of the field, many of which appeared active. Two in particular - located beneath the dome-like canopy of a large, lone oak - were chosen for trapping to get a subject for the beta-light collars. 1 ♀ *T. bottae* had been caught in the gopher traps. Jim explained some of the things he was looking at in the gopher pops. - of particular interest was the use of electrophoresis to determine ♂ parenthood (+ ∴ mating system). It would be worthwhile to see if this technique is applicable to heteromyids - I'd like to know if K-rats are mating non-randomly (seems probable). Light rain began at dusk. After dinner, Jim gave a slide show of his trips to Peru. ~2300, I followed several members of the class to an area ~200 m E of the labs where a few Sherman live traps baited w/rolled oats had been set near some *Neotoma* nests. 1 ♀ was caught in a trap set by Willie Bemis. Animal was kept for a pet. Upon return to dining hall, briefly tried out night vision scope in back yard. Like watching snowy B+W TV. Would be difficult to follow behaviors, but probably good for tracking movements. Will try out again tomorrow in comb. w/ beta light.

17. Nov. HNHR, Carmel Valley, Monterey Co., California

Rained most of night. Still 100% clouds at 0830 but no longer raining. ~14°C. Headed up to Haystack Hill to check Calhoun line. Steve and Stefan reached the

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Journal

November

HNHR, Carmel Valley, Monterey Co., California

top of the hill first and reported seeing a Lynx rufa near start of first series of traps. I didn't get to see it, but fresh scat was at the spot where Steve said it went into the chaparral. About a third or more of Kurt's + my snap traps were sprung and empty, probably due to the heavy rain. 1 juv. ♂ Peromyscus truei was caught at stake #11 in a trap set partly out in the grass, a hermit thrush was caught at stake #14, and a ♂ Dipodomys venustus was caught at stake #17. The other lines yielded similar low results and overall success ~~[illegible]~~ was well below 10%. Info. on captures for the other lines is on file at HNRH if desired. Spent the late morning and early afternoon in the dining hall reading + bullshitting w/ Willie and Steve. At 1530 I went with the 2nd crew to check the Calhoun line again. Jim broke apart the fresh Lynx scat noted earlier. It contained fragments of a Thomomys skull. There were no captures in the snap traps. Hiked down through the chaparral and across the fields at the bottom. 3 Taricha granulosa were noted in the grass along the trail on the way. Stan had caught an Ambystoma tigrinum and a Taricha earlier this morning, but kept ~~them~~ together in a plastic bag and the A. tigrinum died (probably from Taricha toxin). We stopped at the Cattle Pond (see map) to set up 3 mist nets in a semicircle across and around the pond. Still over cast w/ occaisional showers.

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Journal

Nov. cont — HNHR, Carmel Valley, Monterey Co., California

The pond is little more than a muddy crater with murky water in the bottom (~15 m across). A variety of inverts were noted in the water, including Dytiscus beetles, Notonectids, and a bright red critter with a brown clam-like shell ~2cm long that could open the shell and swim by kicking its 8 or so red legs. I never learned its name.

After the net was up, ~1630, Willie and I stopped at the barn to get 8 Sherman live traps. While there, we turned over the logs in the woodpile and found 3 Ensatina eschscholtzi (2 juv.), 1 juv Aneides sp., 1 Eumeces skiltonianus, 2 juv ♂ Sceloporus occidentalis. We set 5 Shermans under the large lone oak near the gopher fields (mentioned earlier - see map) - 3 around a large Neotoma nest and 2 at entrances to a smaller one - and 3 more around another nest in some brush near the stream close by. Returned to the dining hall. (Shermans were baited w/ peanut butter).

~1800, class went to check mist nets. No captures. 1 ♂ Neotoma cinerea had been caught at the smaller nest under the oak tree. It was taken back to the dining hall. After dinner, ~2000, a collar made from a hospital ID bracelet with an F01-G-210 beta light attached was put around the neck of the Neotoma. The sky was clearing by this time and we tried out the night vision scope

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Journal

Nov. cont. HNHR, Carmel Valley, Monterey Co., California

again in the road outside the dining hall. A person standing 50 m. away in total darkness could be clearly seen + identified. A beta lite at the same distance could be distinguished by the naked eye and ~~shone~~ shined like a beacon with the scope. Our attempt at observing the collared Neotoma was not so productive – upon release under the oak tree it crawled under some rocks at the roots and refused to come back out. We went to check the mist nets again – no captures – then returned to try to see the Neotoma. It was not in sight. Willie, Rick + I stayed for another half hour waiting and playing with the scope in general, but the woodrat did not reapper nor was captured by the next morning. Returned to dining hall where Jim gave a slide show on the Galapagos. Tina brought in a Sorex ornatus and a Perognathus californicus she had caught in her Sherman traps E. of the labs at ~2300. I kept the P. californicus for a pet. (name = Spike).

November HNHR, Carmel Valley, Monterey Co., California

~0800, clear, sunny + warm. Light rain again during early part of night. Went to the lab and put up the Dipodomys venustus caught yesterday as a study skin. Checked the Shermans left out for the Neotoma, but they

Journal

3 Nov. cont. HNHR, Carmel Valley, Monterey Co, California

were all still empty. Took them back to the lab, washed them out + put them in the barn. Took a short hike up Haystack Hill until lunch. Left for UCB ~1300.

Heske, E.J.

1980 - 1981

Journal

Mexico

E. Heske
1980

Journal

Berkeley, Alameda Co., Calif., USA to Jalapa, Veracruz, Mexico.

1 March Friday

Pacific Time
Left SF airport at ~ 0045, flying on Mexican Airlines. Group includes Ted Papenfuss, David Good, Sue Kaiser, Kurt Schwenk, Lorrie Klosterman, Gerhardt Roth, Allan Larson. All are presently assoc. with MVZ, UC Berkeley. We will be spending 10 days in Mexico, primarily at Playa Escondida, Veracruz, to trap small mammals, mist net birds + bats, watch birds, collect salamanders, lizards, anurans, snakes, and generally get an impression of what a tropical rain forest is like. For the most complete information on herps, see notes of T. Papenfuss or K. Schwenk; birds, D. Good or S. Kaiser; mammals, E. Heske.

Arrived Guadalajara ~ 0600 Central Time just as sun was beginning to rise. 1.0 hr layover while tourist pass checked, etc. From window at airport, saw 1 Common Egret, 2 Cattle Egrets, 2 House sparrows ("Casa" sparrows?), and numerous Great-tailed Grackles. Reboarded plane at ~ 0700, and arrived in Mexico City ~ 0800. After a few unnerving experiences at the airport involving a missing piece of luggage (all the mammal traps!) and a VW bus reservation nobody seems to know about, we finally got on the road at ~ 1030. We have two vehicles: a VW bus,

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Journal

March continued.

Berkeley, Alameda Co., CA, USA to Jalapa, Veracruz, Mexico.
in which Ted, Sue, David, Allan and I ride, and a Datsun sedan, in which Kurt, Lorrie, and Gerhardt ride. The day is sunny, clear, ~25°C and very humid. We headed S on Hwy 190 D to Puebla, then turned NE on Hwy 140 towards Jalapa. Stopped 2.5 km E (by Mex. Hwy 140) of La Joya to collect salamanders. We turned logs and rocks for ~1.5 hrs (~1500-1630?). Site was initially steep slope (~45°) levelling off after about 30 m. to a flat area above road. Vegetation was principally Pine forest (sp. unknown), lush undergrowth included unid. bunch grass, thistle, Ribes, coyote bush, and other unidentified leafy or flowering plants. Area was locked in fog, trees dripping condensed moisture, but ground was still dry under logs. We found:

10 Chiropterotriton chiroptera
>100 Thorius sp.
14 Pseudoeurycea cephalica
2 Pseudoeurycea leprosa

All species were identified by Ted. All were collected, with the exception that only about 30-40 Thorius were kept.
P. cephalica has a lichen pattern on the tail, which is constricted in a manner similar to Ensatina. It is generally slow moving. P. leprosa also has a slightly constricted tail (at the base), but lacks the lichen pattern. It has a faint blotching on the tail and

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Journal

Berkeley, Alameda Co., CA, USA to Jalapa, Veracruz, Mexico.

21 March continued

flecking along its sides. Thorius is a very small salamander - the largest collected was ~4cm - ~~and~~ is dark brown with hints of a lighter brown dorsal stripe. C. chiroptera was similar in size to both Pseudoeurycea sp., but plain brown in color and no tail constriction. I did not observe these species very closely, and other differences certainly could be noted on further examination. Thorius was common and found under many of the larger logs where the ground was moist - I collected ~16 myself. Also taken from this site were:

1 Barisia imbricata ♀ - possibly gravid
an alligator lizard commonly found in bunchgrass pine in this area (T. Pappenfuss). It was found under bark.

3 Eumeces lynxae
similar in appearance to E. skiltonianus, but with an extra stripe in the middle (5 total) - all were found under bark of standing stumps.

6. Sceloporus scalaris 1♂, 2♀ (1 gravid), 3 juv.
- black "collar" on sides of neck only, greenish sides, browner dorsum. Bright blue belly patches (typical Sceloporus) and blue mottled throat. This species bears live yng.

All were identified by Ted. All were collected. D. Good saw a blue-throated humming bird at this site, also.

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Berkeley, Alameda Co, CA, USA, to Jalapa, Veracruz, Mexico.

March cont.

We continued on Hwy 140, stopping again at Las Vigas to collect herps. This site was a pine-oak forest and lava bed. ~1800, still foggy, ~20°C. We looked under rocks, but found little as the ground was dry. In bromeliads, however, 3 Chiropterotriton lavae were found (T. Papenfuss). They are limited in distribution to this area. Under stones, 2 Leiolepisma sp. were found. This is a brown skink with a broad lt. brown stripe on the dorsum. Tail not blue. Also found under stones were 2 juv. Geophis sp., an earthworm eating snake similar to Diadophis punctatus in appearance. It is dorsally gray with a lt. red collar and red-spotted venter. Kurt saw one other ~25cm in length, but it escaped. The two captured were each ~15cm long.

We spent the night in Jalapa, at the Motel ~~Banderilla~~ Banderilla.

Jalapa, to Playa Escondida, Sierra Tuxltas, Veracruz, Mexico.

March Saturday

Awoke at 0500 – both the traffic and Great-tailed Grackles outside my window were very loud. Arose at 0530 and met David and Sue at 0600 for an early morning birdwalk in the vicinity of the Motel. Area was mostly open

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Jalapa to Playa Escondida, Veracruz, Mexico.

March continued

meadow with many houses nearby. Across the street, where we walked, a dirt road went between a grassy meadow and a plowed field bordered by a corn field and sugar cane. We birded from 0615-0715. 90% cloud cover, 0 wind, 15°C.

720 Great-tailed Grackles
~10 House sparrows
3 Song sparrows
1 Chipping sparrow
1 Caracara
1 Painted bunting
1 Common Yellowthroat
1 unid. warbler
1 unid. swallow

We left the motel ~0800; 10 km E of Jalapa on Hwy 140, we turned SW onto the road to Coatepec. Proceded 10 km along this road, then turned S. Stopped at "Barranca de Teocelo," ~2 km N. of Teocelo. This was an outrageously beautiful river gorge lined with ferns, flowering plants, and green leafy plants. The river was shallow and rocky, more like a large stream. A fish ~60cm long was seen in the water from the bridge over the river. We explored the canyon from 0900-1030, splitting up into small groups. I went

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march cont.

<u>Jalapa to Playa Escondida, Veracruz, Mexico.</u> with David + Sue to look for birds. The area was lush with brightly colored flowers, brilliant butterflys, and vegetation. Attention wandered from one flower to a passing butterfly to a bird and back so rapidly it was hard to absorb anything completely. We saw:

1 Roadside hawk
4 Montezuma oropendula
several (>10) Brown jays
1 Black phoebe
>10 white-collared swifts

The phoebe appeared to be making a nest under some rock overhanging the water, as it kept flying under the rock arch with dry vegetation in its beak. Dark tadpoles were abundant in pools along the water's edge - Ted thinks they are some kind of *Hyla*. I collected several kinds of butterfly. Ted's group collected:

3 *Lineatriton lineola*
- a slender salamander, plain brown with greatly reduced legs. Lives in earthworm burrows; found under deeply imbedded rocks. Local in distribution.

1 *Rhadinea* sp. juv. (~20cm).
- a snake with 1pr yellow spots behind eyes,

E. Heske

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March cont.

Jalapa to Playa Escondida, Veracruz, Mexico

another pr. yellow spots behind head, paired yellow stripes on sides/back. Brown dorsally, light venter.

Several Eleutherodactyla sp. were also seen. This is small (Hyla regilla-sized) frog that has directly-developing young and is commonly found on leafy plants in rain forest.

From the canyon, we back-tracked to Jalapa, then proceeded to Playa Escondida via Veracruz, Alvarado, and Catemaco. I slept most of the way in the back of the van. A sunny, humid day. Arrived at our hotel ~1800 and unpacked, then ate dinner.

After dinner, ~2000, I went for a walk with Ted, Kurt, David, and Gerhardt to look for Bolitoglossa. We followed the road ~500 m. W of the motel, then crossed a cattle-grazed meadow on the N side of the road until we reached a rocky stream. We then followed the stream E for ~300m until we reached a path heading S and back to our rooms. We arrived there ~2330. The area along the stream was lush with leafy vegetation. The broad-leafed trees were strung with vines; also present were palms with a spiny bark (spines were actually sharp

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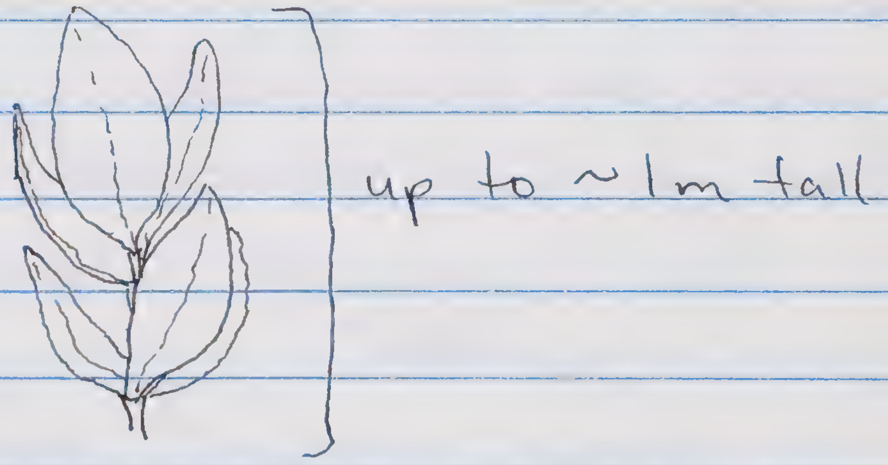
Jalapa to Playa Escondida, Sierra Tuxtlas, Veracruz, Mex.

2 march cont.

down-ward angled strips of bark in rings along the trunk), elephant ears up to 2m high, and a leafy herbaceous plant that was the most common ground cover. I found 1 Bolittoglossa rufescens (acc. to Ted) on this latter plant, but when we arrived back at the hotel it had escaped through a hole in the bag Ted was carrying it in. The plant was not identified, but looked like:



The salamanders probably crawl down into the moist axils during the day. Several Eleutherodactyla were also noted. There seems to be two species: one kind was usually found on the leaves of plants such as the one pictured ~ .3-1.0 m off the ground. It had a broken eyestripe. The other had a distinct eyestripe, black - similar to a Hyla regilla, and was found on the ground. I caught by hand a small Anolis on a tree trunk. It was a ♂ with a red-spotted dewlap. A ♀ was captured a bit later, and both were kept by Kurt. The insect life in the rain

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Journal

Jalapa to Playa Escondida, Sierra Tuxtlas, VC, Mexico.

2 March cont.

forest is amazing. I collected several variously colored beetles from the leaves of herbaceous plants. The greatest variety was noted in the orthopterans, however. They ranged in size from 2-8 cm. Both long-antennaed and short-antennaed families were present, and at least 10 diff. species could be distinguished by one as unknowledgeable about such things as myself. A large ♀ (~8cm) was seen hanging from the underside of a leaf - she had just molted and was still clinging to her old cuticle. I also collected two types of walking stick (a "thin" and a "thick" variety), and a ♀ Amorpha butterfly ~10cm in ~~[illegible]~~ ant → post. wing length. Spiders were abundant. They were usually about 4cm long (including legs), but occaisionally a larger wolf spider more like 8-10 cm long (incl. legs) was seen — one was outside our rooms. All these insects almost makes me want to be an entomologist. A good scare was thrown into us on our return, though, as a black stream of army ants was "flowing" across the cement walk outside our rooms when we got back. We spread Cutter's on our doorstep as they strayed near, and luckily only a few entered our rooms.

Playa Escondida and vicinity, Sierra Tuxtlas, VC., Mex.

March
Sunday

Arose 0600 to go birding with David + Sue. Howler monkeys (Alouatta ~~[illegible]~~ villosa) could be

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Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

3 March cont.

heard in the rain-forested hills NW of our hotel. They sound more like lions than monkeys — more a roar (very hoarse) than a "howl." We followed the road W of the hotel for ~1 km. Habitat was mostly "edge" of pasture and tropical rain forest. Sunny, clear, humid, ~18°C by 0700. In parts of the fields where no cattle grazed, sensitive plants (Mimosa) were common, along with many flowering plants. Sue went back to join the others at 0800, but luckily David + I stayed behind and encountered a mixed flock of small birds near the cattle gate at ~0815. We joined the others for breakfast at 0830. Birds seen were:

Great-tailed grackle, American kestrel, Sharp-shinned hawk, Cattle egret, Hooded warbler, Melodious blackbird, Band-backed wren, Golden-fronted woodpecker, Greater kiskadee flycatcher, Social flycatcher, Scissor-tailed flycatcher, Masked tityra, Keel-billed toucan, Collared araçari, Inca dove, Common yellowthroat, Roadside hawk, Yellow-faced grassquit, Indigo bunting, Baltimore (Northern) oriole, Parrot sp. (Amazonia - always seen in flight only) White-collared swift, Magnolia warbler, Brown jay, Montezuma oropendula, Magnificent frigatebird, Groove-billed ani, Wied's flycatcher.

Σ = 30 spp.

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Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

23 March cont.

After breakfast, ~1000, Ted led us all on a hike W of the hotel. We headed through the slashed forest area W of our rooms until we reached the cow pasture (see map), then N to the same stream we walked along last night. We crossed the stream and climbed a grassy, sparsely wooded hill, then angled W along a trail into dense rain forest. We followed this trail for at least 200m, sometimes up steep slopes, until we intersected a 2nd stream. We then followed this stream NE down a steep, rocky streambed until we decided to cut up the slope to the forest trail again. I caught 1 ♂ Anolis in the wooded area by our rooms and gave it to Kurt, Lorrie saw the tail end of a slender brown/gray snake dissappear into some vines on a tree - Ted thinks it was probably an Oxybelis. Again, Eleutherodactyla were frequently noticed in the rain forest. On the grassy/wooded slope 2 Sceloporus (variabilis group) were seen near fallen logs, but we failed to catch them. Other lizards seen were Ameiva sp., Anolis sp., and Basiliscus vittatus. I saw two of the latter on rocks near the stream, and they proved not an infrequent sight in brush along the road or stream. The move quickly, though, and none were caught. All species were identified by Ted. On our way back, we came across

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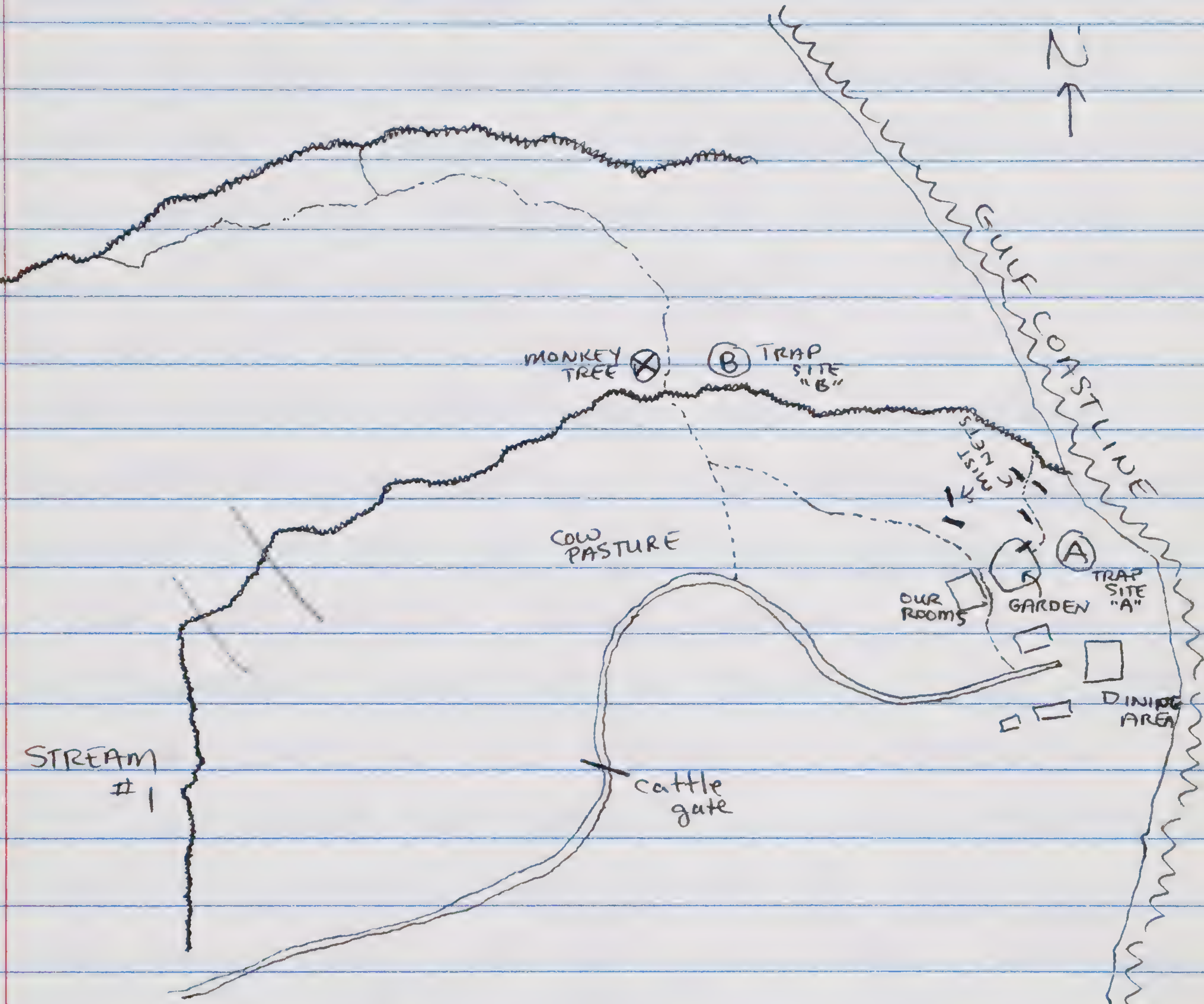
Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

3 March
cont.



half a dozen Mexicans cutting bamboo near the grassy/wooded hill N. of stream #1. They told us they had seen some monkeys nearby. On further investigation, we noted 3 Alouatta ~~palliata~~ villosa

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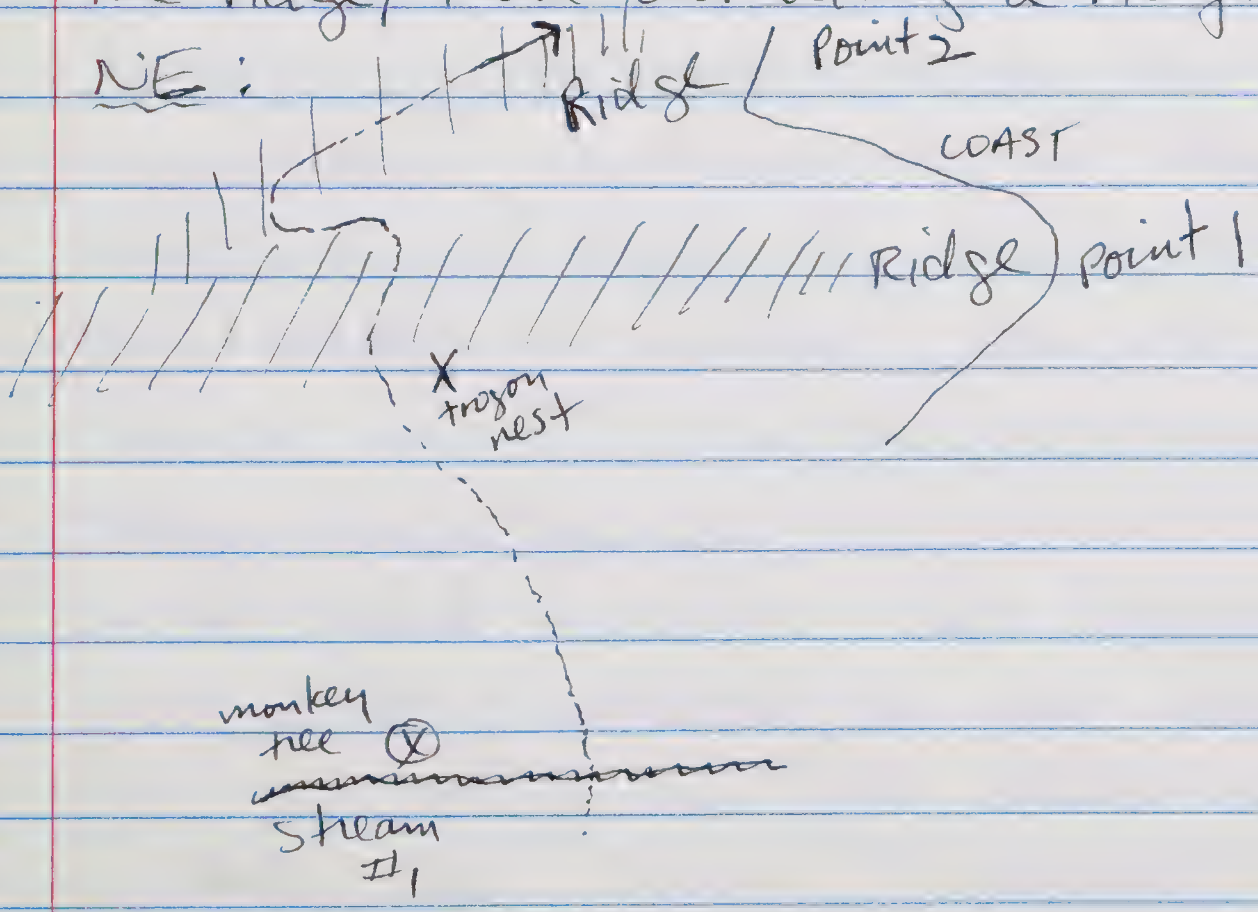
Playa Esondida, Sierra Tuxtlas, Veracruz, Mexico

-March
hursday

Woke up at 0600! Day ~~was~~ hazy, overcast. ~20°C, 0 wind. A little cooler, perhaps, than the past few days. Went on the usual birding foray with Dave, Sue, Lorrie and Gerhardt after unfurling the mist nets. We followed the trail W of our rooms to the crossing at Stream #1, then followed a new trail (for me) NW up the hill to where a Slaty-tailed Trogon nest had been located the previous day. The trogons were not present (~0630). The nest was spherical, ~1m tall, with a single opening ~20 cm in diameter right in the center. The nest was situated in the crotch of a branch ~30m above the ground in a broad-leafed tree (sp. unknown). We followed the trail up the ridge, then out along a ridge running NE:



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March cont.

<u>Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico</u>

The canopy was relatively dense, and although we could hear several species, seeing them was difficult. At 0800 Sue, Lonie + Gerhardt went back for breakfast while Dave + I continued out along the point for awhile. The extra effort yielded a new bird – a Tropical parula – and we got a close view of 3 short-billed pigeons which were fighting (displacing each other repeatedly) only a few feet over our heads. Twice David + I tried to locate a bird making a very Thrush-like call but failed. David thinks it is a clay-colored robin. It does sound very much like an American robin but adds a few notes at the end. We joined the others for breakfast ~0900. Birds seen today: Cattle egret, Keel-billed Toucan, Red-legged honeycreeper, Collared Araçari, Montezuma Oropendula, Brown Jay, Masked Tityra, Boat-billed Flycatcher, Short-billed pigeon, Tropical parula, White-bellied Emerald, Rough-winged swallow, Magnificent Frigatebird, Great-tailed Grackle. Two <u>Sciurus deppei</u> were noted scrambling in the trees along the NE ridge top. No birds had been netted when Dave + I checked the nets

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March cont.

Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico
after breakfast. I went down to the beach for a swim with Dave + Lorrie ~1030. Then mostly wasted the early afternoon chatting, etc. At 1600 I began setting traps, which took until 1830. 16 Sherman traps baited with oat meal, 4 Jones/Heske traps baited with banana, 5 Tomahawk traps, 4 baited with banana, 1 with bird carcases were set out. I placed the smaller traps along a seep near the mist nets below the garden near our rooms and along the trail running down to stream #1. I placed 4 (3 sherman, 1 Jones/Heske) up in branches of trees. 3 of the tomahawks were placed along the stream bed, including the one with the bird bodies. On the banana baited traps, I sprayed some Bebida de Papaya y Piña (Pineapple-Papaya juice) in an attempt to increase their attractiveness + remove my scent. A white-bellied emerald was in one of the mist nets (1st along the trail) on the way back. All mist nets were left unfurled to try to catch bats. The only other bird netted today was 1 Wood Thrush, in the lower net by the stream (netted in the early afternoon - David released it). I put 2 of the Jones/Heske traps baited with banana

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Journal

March cont.

Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico
in the dry creek area N of our rooms in a final effort to catch the elusive beast which keeps springing my traps. While doing so, I saw a Long-tailed hermit searching for flowers (?), moving from brushy area to brushy area. As it was getting too dark to see anymore by this time (~1900), I went to dinner. After dinner we all sat around working on field notes until ~2130, when David and I went to check the mist nets. There was 1 Artibeus jamaicensis ♂ in the upper net W of the rooms, the lower one was empty. N of the rooms, the net in the banana trees yielded 4 bats, the upper trail net yielded 1, the net over the cistern was empty, and the lower trail net yielded 3 bats. 5 of the bats were A. jamaicensis, only 2 were kept; but all 4 unidentified bats were kept overnight to ID in the morning. We finished furling the nets ~2400. Those bats were a pain to get out of the nets!

8 March Friday.

Playa Escondida + vicinity, Sierra Tuxtlas, Veracruz, Mex.

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Journal

ecember
December

Berkeley, Alameda Co. Calif. USA to Puerto Arista, Chiapas, Mexico.

TRAVEL LOG: SAT DEC 6 - Left Berkeley, picked up I 5 heading south. Skirted LA by taking ~~Rt 138~~ Rt 46 to Hwy 99, to Hwy 58, to Hwy 14 South, to Rt 138 E, 395 S, 15 E and finally got on 10 E in San Bernardino, where we stopped for the night. Left Berkeley ~1400, arrived San Bernardino ~2300. Travelling with Duke Rogers and David Good.

SUN DEC. 7: Had an early breakfast and back on the road by ~7:30. Heading E on Hwy 10. Through Arizona and New Mexico, arrived in El Paso, Texas at ~2300. Stayed at another Motel 6...

MON. DEC 8: Got insurance at Sanborn's, picked up a few supplies, and crossed the border to Juarez, Mexico at ~1000. Usual delay with tourist passes, inspections. Decided to drive straight through to Mexico City. Headed S. on HWY 45 through Chihuahua. At Jiminez took HWY 49 to Torreon, then 40 S to 49 (again) to San Luis Potosi, picking up 57 to Mexico City. Arrived in Mexico City ~1000 TUES 9 DEC. Located offices on corner of Isabel de Catolica and Netzahualcoyotl where Direction de la Fauna Sylvestre is found. Man in charge of collecting permits already gone (~1300). Took cheap hotel nearby and spent evening walking
Hotel Playa - 250 pesos

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Journal

Dec. to Dec. — Berkeley, Alameda Co., Calif. USA to Puerto Arista, Chiapas, Mexico, cont.

around the city. WED. 10 DEC.: went to Dirección de la F.S. at 10:30, as requested, and had to wait until 11:30 to see the officer in charge of permits. David's was there, mine wasn't. Left Mexico City shortly after noon — hell of a time getting out of there — on 190D to Puebla. Then 150 to Cordoba → various un-numbered roads to Tonala, Chiapas, where we turned south to Puerto Arista. Took this route to avoid twisty mountain roads through Oaxaca. Last roads very pleasant driving, although in the dark. Arrived P.A. ~ 2AM, slept on the beach (or near it...).

December — Puerta Arista, Chiapas to Huixtla/Tapachula area, Chiapas, Mexico

Awoke at ~0600. Puerta Arista has long, sandy beaches with rolling breakers ~1m. high. Spent the early morning talking with Alvarro (Ali) Gonzales, owner of a restaurant in town, friend of Duke Rogers, who is interested in the natural history of the area and caters to visiting biologists. Headed S on Hwy 200, through Huixtla to Tapachula. Looking for Cerro Mozotal (not on map) or/and Pinabete (located on topo. map, but no road to there). Decided to take looping road N from

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Puerto Arista to Huixtla/Tapachula, Chiapas, Mexico

December, cont.

Tapachula. Road not well kept up – rutted, lots of holes – took 2 hrs to get to Nueva Alemania. Told by uno hombre there that we could go no further by car, Pinabete was only reachable by burro. Returned via rest of loop to Huixtla – road passable, but rough in some spots. Had to ask directions mucho, as one turn on the right was missed (the turn for Huixtla) that went along a ridge. Passed through several small towns with people that look much Indian. They seem to make a living mostly by harvesting the coffee beans that grow abundantly throughout the area and drying them on patches of concrete in front of their homes. There ~~were~~ lots of patches of mature forest, very many areas dominated by coffee plants which cover some hillsides like chaparral, and even some cultivated patches. Never got to very high altitudes (no pine/oak) – highest was ~500m. A very tiring ride due to poor road – got back to Huixtla ~1700. Headed N. of town to a patch of mature lowland forest Duke had trapped previously and captured Heteromys goldmani in. (15.5 mi SE by road from Mapastapec, 50m elev.) Area is along dirt road on rt. (heading SE). Forest area where I set my traps was partially

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Puerto Arista to Huixtla / Tapachula, Chiapas, Mexico

Dec. cont. disturbed. I set 40 sherman collapsible live traps baited w/ hen scratch. 15 were set along a path to the N. of the road: traps set ~ 10 paces (20 ft.) apart on alternate sides of the trail. Dominant tree in this area seemed to be Cecropia, indicating a disturbed area. About 100m in from the road there was an area where ground cover was cleared, then a barbed wire fence, field + hut. Set the last 5 from this box on S. Side of road in less disturbed, more mature-looking forest. 20 more Shermans set along a path on S. side of road. Put 2 traps every 10 paces, one each side of trail, because trail also led to wire fence and field. Traps mostly set along fallen logs, tree buttresses, in dense areas of ground cover. Dark by time all traps set. Duke met a resident of the area who said not to camp there because of banditos, so we stayed at a hotel in Huixtlas — Hotel Molano ~ 325 pesos. Were kept awake by firecrackers most of the night.

Vicinity of Huixtlas to Cerro Mozotal, Chiapas, Mex

2 Dec. Arose early (~600) and left hotel because we were illegally parked and were warned that at ~0630 our lisense plates would be removed. Went to check traps — I caught only one Peromyscus gymnotis in a trap set in the mature forest. Dave Good also caught 1 P.g. out of

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Vicinity of Huixtlas to Cerro Mozotol, Chiapas, Mexico

Dec. cont. 40 traps, Duke caught 4 P.g. out of 60 traps. No Heteromys. Did not get a chance to set bat nets because of warning of banditos, but had seen several before we left last night. Feeling generally dissappointed about our slow start, began to look in earnest for Cerro Mozotol. Asked several natives for directions, and often recieved directions to Motozintla de Mendoza, NE of Huixtla. Took the road out of Huixtla to try to find C. Mozotol or at least suitable habitat (pine/oak). It was not so important to get H. goldmani as Duke already has a sample from this area collected in 1979. The 6 Peromyscus gymnotis were taken, hopefully to be brought back alive to the U.S. for chromosome banding. It is imperative to collect some H. nelsoni, however. These are known only from high elevation, moist Pine/oak (~2300 m). Two localities prev. recorded were Pinabete, which was unreachable, and Cerro Mozotol, which we hope to find today. At ~0930, headed N. from Huixtlas on well-paved road. Road passes through many small towns. As along road (loop) taken yesterday, there seems to be many patches of relatively undisturbed lowland rainforest along either side but the slopes are very steep. After about 20 km, road becomes a little more rough, but still well passable - unpaved in spots, but overall good. ~600 m elev.

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Vicinity of Huixtlas to Cerro Mozotol, Chiapas, Mexico

Dec. cont. Pass through town of Belisario Dominguez ~25 km. About 5 mi past B. Dominguez, ~900 m elev., begin to see some pines. There is a lot of agricultural activity, so not very extensive forests - much open field. ~50 km from Huixtlas, reach Motozintla. By this time we have figured out that Cerro Mozotol must be the mt. near the city. At first we drove past Motozintla looking for a road going up the mt. or in that general direction - Chiapas map inaccurate in this respect. After asking directions several times, finally got on rd. going out of city and up mt., over mt. to El Porvenir. Gave ride to uno hombre, who guided us up a winding but passable dirt road to an abandoned telecommunications station at the top - very windy here - gust 40-50 mph, 14°C, clouded in. Many places along last couple miles of road looked good for trapping - lots of pines, spanish moss, bromeliads, some birch or alder - very steep slopes, however. Had lunch on top of mountain, then chose 3 spots to set out trap lines. Site A: 13.5 mi. (by road) N. of Motozintla de Mendoza, Cerro Mozotol. Set 20 Sherman collapsables baited with hen scratch. 10 set ~10 m apart down slope (~45°) in area with leaf litter floor, many saplings and smaller trees as well as larger trees (trunk DBH ~.66 m). Trees mostly alder(?). Second series of 10 set ~10 m. apart along slope rising away from road. Dense ground cover, herbaceous, viny and shrub-like

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...Cerro Mozotol, Chiapas, Mexico

Dec. cont. plants. Abundant hummingbird flower in bloom. Several hummers (both green violet-ears and green-throated mountain-gem) active in area. Trees more widely spaced and mostly mature – complete with bromeliads. Elev. 2800 m. Duke and David also set 20 traps here (each.)

Site B: 12.6 mi. N. of Motozintla, on Cerro Mozotol. Elev. 2700m. Set line of 20 Shermans baited w/ hen scratch, ~10m apart, running down sides of steep slope through ravine. Top of slope has dense ground cover of humming-bird flower, some bunch-grass and other herbaceous growth. Large pines in area as well as some unknown deciduous trees – several brushy thickets in ravine, occaisional patches of talus. Duke + David set 20 traps each on slope above road in dense thickets and pine.

Site C: 10.8 mi. N. of Motozintla, on Cerro Mozotol, 2450 m. Patches of open grass along side of road – this will be our campsite. Set 10 Shermans w/ hen scratch on steep 60° slope below road – mostly leaf litter floor, some fallen logs, a few thickets of bamboo-like vegetation. Set other 10 traps in dense chapparal-like growth with thick ground cover of bunchgrass and herbaceous plants on hillside near ridge covered with pine. Some pines on hillside, as well. Watched beautiful sunset through the clouds – can see the ocean from here. The mountain, in general, is very picturesque – many small farms growing corn, watermelon(?) along most of the way up. Only scattered pine forest

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Cerro Mozotol, Chiapas, Mexico

2 Dec. cont. from ~1000m to ~2000m. due to habitation. Above that there are few houses and much mature forest. It is clouded near the top and some areas are very moist. Sites B+C, however, seemed somewhat dry. Turned in ~2000.

Cerro Mozotol, Chiapas, Mexico

Dec. ~~cont.~~ Arose ~630. °8 C. Foggy/Cloudy. Checked traps at site C. I caught 1 Peromyscus guatemalensis, adult ♂, and 2 P. boylei in trap line below road; another 2 P. boylei in dense thicket/chaparral on W. side of road. Duke caught 2 P. guatemalensis; David caught 2 P. boylei. Again, no Heteromys. Talked for awhile with uno hombre who lived nearby - he came over to investigate us. Waited for short David looked in bromeliads for salamanders - found 1, and 1 small frog, also. See D. Good field notes time for fog to lift, sun to dry out tent. However, car stalled when turning around and couldn't be started again. Some passers-by helped push, but couldn't jump start (automatic). Battery seems too low (used car light for writing field notes last night!) Truck stopped to help, but no jumper cables - tried linking their battery to ours via some wires from a transformer, but no luck. Possibly starter or solenoid trouble? Second truck stopped - Duke + 2 Mexicans from Mex. City hitch ride down to Motozintla to get a mechanic + return. ~5 min later, another truck stops, has jumper cables - car starts! David + I then headed down mt. to intercept Duke - stopped just outside Motozintla - car starts fine. David stayed w/car, I walked in to town looking for Duke - no luck, so returned

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Cerro Mozotol, Chiapas, Mexico

Dec. cont. to car to wait. Duke finally came by w/ mechanic ~1500. Drove back up mt. to check final two trap sites.
At Site B, first 3 traps sprung, no animals — reset. 2 other traps also sprung, knocked over — one looked stepped on. Reset latter two more away from a path they were near. Caught two P. guatemalensis and one Neotoma mexicana. David caught 1 P. boylei and 1 Neotoma mexicana; Duke caught 2 P. boylei. Left all traps with no animals set for another night. ~1700, sunny. Fog/clouds just beginning to settle in. At site A we are above the clouds — looking down on them as from an airplane. Fog just beginning to be noticeable here, ~1730. Caught 3 P. guatemalensis along line of 10 located in broadleaf / sapling area. No captures in dense herbaceous area. Set 17 more Sherman traps in very moist, mossy area on opposite side of rd. Dense canopy of broadleaf trees, many fallen logs, ground thick with moss, ferns, herbaceous plants. Finished setting traps in late dusk. Duke had caught 3 P. guatemalensis; David caught 1 P. boylei. Each set another box (18 or 19) of traps. All traps w/o an animal left out for another night. Fog/clouds rolling in thick by dark (~1830). David set up a mist net, as we saw a few bats in the dusk, but it was soon dripping wet, so we took it down. 4 mice died today during the trip back up the mt. — prob. from the heat generated by the drive shaft (3 were on the floor)

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Cerro Mozotol, Chiapas, Mexico

Dec. cont. in combo. with the general lowland high temperatures. Duke made the study skins + took tissue samples. Fog lifted considerably ~2100. Turned in ~2200.

Cerro Mozotol, Chiapas, Mexico

December Arose ~630. Fog had cleared – sunny, up above the level of most clouds. Checked trap lines on E. side of road first – ~~[illegible]~~ two P. guatemalensis in young broadleaf area. Pulled all traps on these two lines; still no captures on upper half-line: habitat to avoid → some broadleaf + pine, but canopy not very thick. Dense shrubby and herbaceous ground cover ~1m tall, mostly hummingbird flower + another violet scrophulariaceae, some smaller yellow ranunculaceae also in bloom. E-facing slope, ~40°, soil fairly dry. No captures ~~at~~ all in two nights. On lower trap line, W of road and down hill, caught 1 P. guatemalensis and ONE HETEROMYS NELSONI (Big ♂) !!! The Heteromys was caught in very moist, W-sloping hillside (~45°). Ground was covered with viny and herbaceous plants, ~25 cm tall. Moss covered most rocks and fallen logs. Some ferns also present. The canopy was dense, mostly broadleaf but some pine. Pine needles and leaves mixed on floor. Duke also caught a Heteromys nelsoni ♀ and one P. guatemalensis. David caught a Reithrodontomys (sp?) on the ridge where he caught one animal

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Cerro Mozotol, Chiapas, Mexico

Dec. cont.

yesterday. The latter had been called a "P. boylei" but on second glance proved to be another Reithrodontomys. He also caught one P. boylei on a different line. I was annoyed because it appeared that at least two of my traps on the lower line had been visited but not sprung. Will make sure all triggers set better tonight. Duke caught the Heteromys in an area with mossy logs, also, so we plan to concentrate our efforts in that habitat type tonight. While transferring mice to older, unnumbered traps for holding, Duke pointed out that many of the P. guatemalensis had a buffy breast, while others had only a buffy wash to the breast. Both types were caught in all areas. The former had more buff in the sides, as well, and the antiplantar side of the feet had dark hairs extending further distally. A few juvenals had no buff at all. Spent part of the morning repacking gear, etc., while Duke put up the two woodrats and a P. boylei from site B. Tissue samples were taken. Did some birding - but only briefly. ↗ See Dave Good's notes for bird list of area. Saw two grayish squirrels (Sciurus griseoflavus?). David saw a deer (Odocoileus virginianus). Drove down to site B to check traps left there. I had no further captures; Duke caught two more P. boylei; David also got zilched. Returned

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Cerro Mozotol, Chiapas, Mexico

Dec. cont. to our camp at site A ~1300. Duke + I sorted through traps + repaired broken ones till ~1500, then began setting out remaining traps. I checked my W-slope line and added traps that had previously been holding animals, making 20 in all. Set another 20 about 100 m S. of that line down same slope, in similar vegetation (although not a ravine). Set 10 Shermans further down slope, beginning at bottom of Line 1 (yesterday's line) until I reached a very steep area above a path. All vegetation generally similar to area described above. Set a final 8 traps about 500 m S. down road, but above road. Duke has set ~60 traps in this area. Promising habitat - many moss covered logs, moist ground, lots of low herbaceous ground cover, fairly dense canopy. Wish I had more than 8 traps to set here! Will try more tomorrow, depending on trap results. Returned to camp ~1730. Dinner, etc. Fog/clouds came in early today - already thick by 1300. Turned in ~2130.

Cerro Mozotol, Chiapas, Mexico

December Arose ~0630. Clear sky, clouds below us. Checked traps on line in ravine W. of road first - caught 1 *P. guatemalensis*, 1 *Heteromys nelsoni*, and 1 *Reithrodontomys*. According to Hall + Kelson, it is probably *R. sumichrasti*. The

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Cerro Mozotal, Chiapas, Mexico

Dec. cont. second line I set W. of the road yielded only a single *P. guatemalensis*. This line was on slighty steeper terrain, more leaf-litter on floor, not as moist. May not be ideal *Heteromys* habitat, so will pull these traps later today. The line of 8 traps ~500m S. of our campsite yielded 1 *P. guatemalensis*, also. David caught 1 *P. boylei* (60 traps). Duke caught 3 *Heteromys nelsoni* and 3 *P. guatemalensis* (80 traps) in the area near the 8 traps I set. After breakfast, Duke + I took tissue samples from and prepared study skins from 11 of the *P. guatemalensis*. This took from ~1000 – 1315. Had a quick lunch, then pulled all traps from the second W-of-road line. Took these to the area Duke had such good luck with this morning. Reset the 8 that were there plus two more, then added 20 on to the line. Habitat is mostly large pine, some broadleaf, but canopy not very thick. Disturbed areas in early successional stages bordering patches of forest. Many fallen logs, most covered with moss and ferns. Fairly dense low herbaceous ground cover. Floor covered with mixed pine needles and leaves. Returned to camp ~1630 and changed location of several traps on ravine line (hopefully for the better!) Added 4 more traps in the general area where the two *Heteromys* were caught. Coincidentally, the second *Heteromys* I caught was only one trap down from where I caught

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Cerro Mozotol, Chiapas, Mexico

...c. cont. the first. Duke caught 1 *Heteromys* on each of 3 lines, but one of these was only two traps away from where he caught his first. He pulled the line he had near camp and moved it to this area. David also changed location of his trap lines to a similar-looking area atop a ridge near camp. That makes ~200 traps set. Tonight will be the last night of trapping here, then to a hotel to begin karyotyping. Re: animals skinned, tissue samples, etc. — all pertinent data (such as repro. condition) is recorded in D.S. Roger's catalogue to simplify keeping track of data on this series of animals. Turned in ~2100.

Cerro Mozotol to Huixtlas, Chiapas, Mexico

...ecember Arose ~0630. Sunny again, clouds like a snowfield over the valleys between the mountains. My W-of-road line yielded a disappointing single capture: 1 *Reithrodontomys*. The two *Reithrodontomys* captured in this ravine were both along ledges with lots of overhanging vegetation (such as ferns) and nearby logs + trees. They are large (look like ~15g or so), very tawny colored with orange venters, and tails much longer than body length that appear to be somewhat prehensile. The *Reithros* David caught seem to be a different species - they are smaller and similar in general size and appearance to the *R. megalotis* I'm used to

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Cerro Mozotal to Huixtlas, Chiapas, Mexico

Dec. cont

seeing. Will wait until back in Berkeley to finally determine species on the two types. (Possibly the larger is *fulvescens*?) The line of traps in the forest ~500m S of camp yielded a single *P. guatemalensis*. Also, the ultimate humiliation of finding mouse shit on the door of an unsprung trap. Only 2 captures / 60 traps — Duke caught 1 *Reithrodontomys*, same type as the two I caught. David caught another *Reithrodontomys* of the smaller variety. Pulled all traps, had breakfast, and headed for Huixtlas to begin karyotyping. Morning almost ended in disaster, as we were going to drive to the top of the mt. to get a few pictures but the car wouldn't make it — no power. Had to back down to the campsite and turn around. Stopped briefly in Motozintla to get a new air filter + go to the market, then drove to Huixtlas. Chose some good-looking trapping sites along the road, hopefully to get some *Heteromys goldmani*. Got a room at the same hotel (Molano), + spent the afternoon karyotyping, taking tissue, blood, + sperm samples, and preparing study skins on 3 *H. nelsoni*, 2 *P. guatemalensis*, and 1 *P. boylei*. That took from 4-8 (1600-2000). Went out for dinner — town all decorated for Xmas. Turned in ~ 2200.

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Huixtlas, Chiapas, Mexico

December — Arose ~0630. Went with David + Duke in search of a place to get breakfast, but no restaurants were open at 0700. Gave up, decided to begin karyotyping. Duke took blood samples, karyotyped; I took tissue samples; David skinned — David + I prepared study skins. 8 mice karyotyped, including 1 more H. nelsoni. 4 died in cages and were just skinned + stuffed. Took from ~0830 - 1230. For information on specimens prepared (tissue, blood, sperm samples; glans preserved, etc) see catalogue of D.S. Rogers. Ate lunch, siesta from 1330 - 1500. Planned to set traps for H. goldmani along rd. to Motozintla in the afternoon, but had car trouble again. Finally got a mechanic to fix it - new gas filter, tinkerd with distributor and carburator. Seems OK now, but too late to trap (~2000). Cost 300 pesos. Ate at same restaurant for dinner (Las Argentinas) - but waiter ripped us off - charged 320 pesos for dinner. Way too much. Went to bed pissed off ~2200.

Huixtlas to Pozo de Petrolio, 70 mi N. of Berriozábal, Chiapas, Mex.

8 December. Arose ~0630 again, packed car and left Hotel. Headed NW on Hwy 200, to Tonala. Had some trouble getting unleaded gas, so got ~100 pesos worth of Nova to hold us. Bought some more ice, soda, a few groceries. Then continued on Hwy 200 to Arriaga. Turned N on

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Huixtlas to Pozo de Petrolio, 7.0 mi N. Berriozábal Chiapas, Mex.

cember narrow, winding road connecting to Hwy 190. Then headed NE to Barriozábal. Turned N on paved road until reached town square w/church; go past for a couple blocks, then turn right until a "main" dirt road reached (about 4 blocks). This road heads N. out of town to an old Pozo de Petrolio (oil well). Road is not very good - probably impassable during rainy season. Follow rd. until reach a fork - take right branch - rd. continues past an old finca, then take the left branch of the next fork. A dead end is reached at 7.0 mi. Arrived at ~1530. David went looking for salamanders (2 Bolitoglossa, see D.A. Good notes) while Duke + I went to set traps. To the left of the dead end are two paths into the forest; we took the furthest left. This area seems to be used frequently by locals - several people passed on rd. and others here collecting some kind of fruit/veg. Talked to one hombre - it seems that two people were here collecting snakes only 4 days ago (Ted Papenfuss?) Duke chose a spot to set his line in some forest that looked relatively undisturbed. A lot of slash along sides of trail, however. I began to set a line a little further on - habitat is dense canopy of broadleaf trees with very thick understory of viny plants and a moderately dense herbaceous ground cover. There are many mossy rocks and

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Huixtas to Pozo de Petrolio, 7 mi N Berriozábal, Chiapas, Mex.

Dec., cont. rotten fallen logs. Floor covered w/ brown leaves. This site is not quite as moist or lush as the cloud forest ravine trapped on Cerro Mozotol, however. Viny plants make rough moving – also, jumbled rocks a little more common than ideal – in some places that's all there is, and Duke says Heteromys don't like rocks so much (prefer logs + vegetation). Set second line of twenty Shermans w/ hen scratch on opposite side of trail – ran into a clearcut after ~10 traps, however. In backtracking, ran into Duke's trapline (just as I was getting into what looked like primo habitat – it figures). Had to set last 5 traps betw. trail + clearcut – prob. not a very good area. Area in general as described above but not as rocky. Also, first signs of possible dysentery appear – uh oh. Duke got out 80 traps in the time it took me to set 40... While I made dinner, D+D set up a mist net across the trail next to camp. A check after dinner yielded 1 Pteronotus davyi. Net to be left up overnight. Turned in ~2200. Elev. here is 950m. Moon 3/4 full tonight, very bright: up for first part of night. No wind, but cool, humid air makes it feel chilly/clammy. Some puddles in rd. indicate a recent rain in this area. Temp. prob. down to ~10°C tonight. Quite a change (again) from hot, humid Huixtlas.

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Pozo de Petroleo, 7 mi N. Berriozábal, Chiapas, Mexico

December

Arose ~0630. Heavy dew, clear skies. Trap line in rocky area yielded only 3 P. mexicanus. Trap line in forest near trail yielded 1 Tylomys (sp.), 1 Oryzomys (sp.), 4 P. mexicanus (and 3 traps that didn't close but were visited. Duke had similar good results on all 4 of his lines (5-4-9-6 captures): 2 Heteromys desmarestinus 1 Oryzomys sp., 7 Tylomys (sp.), 1 Scotinomys (sp.), 13 P. mexicanus. An Artibeus (sp) was found in the mist net this morning, as well. After breakfast, David went looking for salamanders while Duke + I took tissue samples + skinned 18 of the P. mexicanus. Put skins aside for stuffing later. Also took tissues, skinned, and stuffed 7 Tylomys w/ David's help. ~1530 went to set out more traps — all three of us went to the same area (where Duke caught the Heteromys), so our trap lines ended up crossing and running into each other — very frustrating. I set one line there, Duke set 3, David one. David set another line further down the road toward Berriozábal, I hiked further down the trail away from camp. When I reached another area of mature-looking forest, hiked in and set 20 traps. Area has large trees, dense canopy (broadleaf), dense viny growth, herbaceous ground cover, leaf litter floor, many mossy rocks, some logs — similar in overall appearance to area trapped last night (only farther

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Pozo de Petroleo, 7 mi N Berriozábal, Chiapas, Mexico

c. cont. away from camp). Clouded up while setting traps - completely overcast by dusk. After dinner, helped D+D stuff P. mexicanus skinned this afternoon. Plan on checking traps in am., then leaving. Hope it doesn't rain - road would be a nightmare. Turned in ~2130. Overcast, windy (gusts ~20-30 mph). Temp ~15°C (?). David set up a mist net at dinner, but no bats as of yet.

Berriozábal to San Cristobal, Chiapas, Mexico

20 December Arose ~0700. Overcast, heavy mist. Began to check and pull traps immed. so we can get out of here before it rains. Line in forest near camp yielded 3 more Tylomys. Kept crossing trap lines w/ Duke + David. Began to rain lightly by the time I was finished with this line. Line set farther down trail yielded 1 Tylomys, 4 P. mexicanus. Duke caught 1 Heteromys ~~[illegible]~~ desmarestianus, 1 Scotinomys, 2 Tylomys, 2 P. mexicanus. David caught 1 H. desmarestianus, 1 Tylomys, 6 P. mex.. No bats in mist net (although a large - Artibeus sized bat seen last night near camp). Drove out before road got too muddy, continued ~~west~~ east on Hwy 190 through Tuxtla Gutierrez to San Cristobal las Casas, elev. 2113 m. Stopped to buy some supplies, water. Lots of nice shops - very touristy. Water place is across the street

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Dec. cont.

Berriozabal to San Cristobal, Chiapas, Mexico from La Eglisa Santo Domingo, near the marketplace. Headed E. out of town to go to a locality David knew about called Zontehuitz (a mt.), but turnoff road was blocked by downed electrical wires. We headed W. to a spot noticed on the way in to town - a road leading off the Hwy marked "Acesso Salida Tunel" 4m W. of San Cristobal. Arrived ~1430. Had lunch, set up camp, etc. Area probably not that good for trapping, but will try anyway. Mostly pines, some mixed broadleaf. Trees look fairly young (DBH ~ 6" or so; rarely > 12"). Forest floor covered with pine needles, only scattered herbaceous ground cover. I set 40 traps along a stream at the bottom of a ravine (sloping sides ~60°) where the vegetation was a little thicker, but still not very dense. Not very hopeful for many captures due to steep slope, but surrounding wood doesn't look like it would yield anything but an occaisional Peromyscus anyway. Duke set 40 traps (Sherman live/hen scratch) someplace ~100 m down the Hwy that he had noted earlier + said looked good. David set 20 in the woods near camp. Elev. here is ~2300 m. Very cold, clammy. Still overcast. Heavy mist set in just after dark. Duke, David + I prepared study specimens from 10 P. mexicanus, then Turned in ~2200.

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San Cristobal to 3.9 mi NE Bochil, Chiapas, Mexico

December

Arose ~0630. Checked trapline along creek: caught 4 P. boylei. Day is sunny + clear - no wind, <10°C but warming fast in the sun. David caught 1 P. boylei and 1 Reithrodontomys (small, looks ~8-9g; colored like a megalotis) along the edge of forest / secondary growth near camp. Duke's lines through the forest yielded 11 P. boylei. Forest in general has high canopy of pine, secondary canopy of oak (~10m), and scattered herbaceous ground cover w/needles on floor. Ate breakfast, prepared to leave. Two of the P. mexicanus, two P. gymnotis died of cold last night. Also, 5 of the P. boylei in Duke's traps were dead. Headed in to San Cristobal to get some groceries, water. Market place is great - would love to spend a day or two here just wandering around the market and shops, but no time (as usual-). Water purification place not open today (Sunday); no unleaded gas anywhere, either. Wasted the morning driving all the way back to Tuxtla Gutierrez in search of unleaded gas with no luck. Finally had to fill it with Nova. Took the Hwy 195 North just W. of Tuxtla G., heading for a locality Duke wants to trap near Rayón. Stopped at a roadside cracked rock/gravel pile 3.9 mi NE of Bochil to set traps, as it was getting late (~1545). Area looked good at first

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San Cristobal to 3.9 mi NE Bochil, Chiapas, Mexico.

Dec. cont.

glance – seemed to be some mature pine/broadleaf forest patches (although lots of agricultural activity nearby). However, the pines proved to be thinly scattered and the vegetation around camp was mostly very dense secondary growth (brush, vines, young broadleaf trees). I set 40 traps in the secondary growth near camp (w/much difficulty) in a line towards the forest, but never reached it. Duke also set 40 traps – Shermans baited w/ hen scratch, as usual. 10 were set in the secondary growth, 30 were set in the woods on the opposite side of camp from where I set my traps. He says the pines were still very thin, lots of dense understory, not many logs or rocks – see D.S. Rogers's notes for fuller description. After dinner, prepared study specimens from the 9 dead *Peromyscus* w/ Duke + David. Heavy overcast again; full moon sometimes seen through break in clouds. Warmer than last night, ~15°C. Turned in ~2130. Elev. here is about 1200 m.

3.9 mi NE Bochil to 4.9 mi SE of Rayón, Chiapas, Mexico

December

Arose ~0630. Heavy mist, slight rain. Everything is soaking wet (ie. tent sleeping bag, + soon to be me.) Traplines in dense secondary only yielded 4 *Peromyscus*. Species difficult to discern, may be *oaxacensis*. Duke caught 1 *Reithrodontomys fulvescens* and

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3.9 mi NE Bochil to mi S of Rayon, Chiapas, Mex.

December, cont. 12 Peromyscus (both boylei + oaxacensis) on his forest lines. Decided to drive awhile before breakfast since weather was so bad. Today has been absolutely the pits: pants ripped, didn't catch many mice, cut myself on a trap, my stove broke while cooking breakfast and is unrepairable, sleeping bag + tent are wet, car sounds like brakes about worn out, and the tip of my rapidograph just broke off, not to mention that my head lamp only works when it feels like it. We stopped at a roadside pull-out this morning and skinned/took tissues on 12 Peromyscus, 1 Reithrodontomys, and 3 Tylomys (see D.S. Rogers' notes). Drove on to Rayón. Surrounding area very heavily used agriculturally + for cattle. Not many stands of trees left. We stopped, however, at a ravine with a stream that had some dense forest around it. Duke set 40 traps near the stream, I hiked up a long steep trail of mud to set 40 more near the ridge where it looked like more trees. Not overly optimistic: habitat is scattered mature broadleaf trees with many smaller trees + vines mixed between them. Understory very dense - would stop a charging rhino. As it is still foggy, everything is wet, ground is very slick. Hard to climb trail - keep slipping back down. So this is the tropics. Camping at a roadside

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3.9 mi NW Bochil to 4.9 mi SE of Rayon, Chiapas, Mexico

Dec. cont. turnout 4.9 mi SE of Rayón for the night. Had to build a fire from wet wood to cook dinner — stuffed the animals skinned earlier today afterwards. Turned in ~2130. Foggy, damp, tired. Duke also set 20 traps in the brush around camp while I was making dinner.

Rayon, Chiapas, to Acayucan, Veracruz, Mexico.

December Arose ~0630. Damp, but fog gone. Completely overcast. Duke checked the 20 Shermans he set around camp — 1 was broken, but the others caught 14 animals: 1 Oryzomys, 6 Reithrodontomys (fulvescens?), and 7 Peromyscus zarynchus. In the traps set 3.3 mi SE of Rayon, I caught 4 Heteromys desmarestianus (1 additional caught, but escaped when checking trap), 21 P. zarynchus and 1 Marmosa mexicana (dead in trap). Duke caught 1 Marmosa mexicana and 15 P. zarynchus. Pretty good % capture — almost every trap in some areas. Area around campsite was very chaparral-like, lots of brush bordering agricultural/grazing areas. Along top of ridge, as described above, but topmost part of ridge had more open understory, less vines, leaf-litter floor, a few logs. This area caught the most Heteromys. Continued N. on Hwy 195 to Villa Hermosa; wasted about 2 hrs. here vainly searching for a mechanic to check the brakes. Frustrated, decided to continue W on Hwy 180 to Coatzacoatl — no luck there either. Found a hotel

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Rayón, Chiapas, to Acayucan, Veracruz, Mexico.

December, cont. in Acayucan for the night – hotel Ritz (300 pesos). Ate in a restaurant near the square – too expensive (another 100 pesos each). Spent the evening preparing study skins + taking tissues. Day was overcast, mussy, but not hot. Turned in ~ 2200.

Acayucan, Veracruz, Mexico

December Arose ~0700. Made breakfast — spent the day Karyotyping, taking tissues, putting up specimens. Day was overcast — but cool temperatures. Lots of firecrackers, etc. in town; getting ready for Christmas. See D.S. Rogers catalogue for numbers and data on specimens prepared.

Acayucan to Playa Escondida, Veracruz, Mexico

December Slept late (~0800). Made breakfast, cleaned + repacked car, left Acayucan ~1045 heading for Lago Catemaco. Stopped at Catemaco for a few groceries + ice, then drove on to Playa Escondida (arrived ~1500). Ate lunch at the restaurant there – lots of birders around (a few people from Texas, one expatriot, etc. here for the Xmas bird count in Catemaco on Dec. 30) Looks like the field station is out of the picture – too many birders staying there. Overcast all morning, rained all afternoon. Decided not to set traps tonight – area around the hotel doesn't look very good, too much disturbance – lots more forest cut

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Acayucan to Playa Escondida, Veracruz, Mexico

Dec. cont. down than last spring — garden behind rooms much larger and forest cleared away. Also, its still raining at 1600, and looks to continue. So we prepared study skins, took tissues on all the rest of the animals not being taken back alive (~16). Turned in ~2200. Rain stopped, still overcast. Humid but temp. about 20°C, so not too hot.

Vicinity of Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

26 December. Arose ~0700. Still overcast, humid, T°~20°C. Spent the morning washing some clothes, counting traps, etc. Set out a line of 20 Shermans w/ hen scratch on the N side of the stream below our rooms. Similar to where I trapped last March — mostly mature broadleaf trees, lots of vines, small palms, + thick herbaceous understory ~.67 m high. Patch of woods I set traps in bordered the field N. of the hotel where cattle are grazed. Duke set 20 traps on the side of the stream nearest the hotel (betw. stream and hotel garden). ~1545 we drove to the biological station and stopped just beyond the reserve boundary to set more traps. I set two lines of 20, David set two, Duke set three (one of which was along the road in the grass + brush). It rained again from ~1600-1730. Returned to hotel + made dinner ~1830. Afterwards David + I went out to walk along the stream with headlamps + lanterns looking for

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Vicinity of Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

ec. cont. herps. We followed the stream from the cattle pasture until it reached the forest below the garden. I caught a young Basiliscus (?) asleep on one of the herbaceous leafy plants near the stream. David found a single Bolitoglossa rufescens and a small Hylid-like frog. We also found one of the traps I lost here last spring — and it contained the skeleton of a Heteromys. It figures. Returned to the hotel and turned in ~2230.

Vicinity of Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

December Arose ~0645. Sunny, clear skies. Looks like bad weather finally passed through. Went to check traps near biological station first — I caught 2 Heteromys desmarestianus and two P. mexicanus on one line, the other got zilched except for the tail of one Heteromys. Most traps appeared to have been visited, however, and prebait was gone from a good 75%. A few were full of ants. David caught 3 Heteromys and 3 Peromyscus, Duke caught 2 Heteromys, 1 Sigmodon hispidus, and 2 Peromyscus, 1 Oryzomys couesi. The area was heavily disturbed — much open field, lots of newly slashed or cleared patches, cattle grazing nearby. Returned to Playa Escondida and checked traps there ~0930 — I caught 1 more Heteromys and 3 Peromyscus, Duke caught 1 Peromyscus. Spent the rest of the morning and early afternoon karyotyping, taking tissues, preparing specimens. See D.S. Rogers' catalogue for data on animals. About 1530 Duke and I each took 40

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Playa Escondida, Sierra Tuxtlas, Veracruz, Mexico

Dec. cont. traps and headed for the larger patch of mature forest on the hill above the cattle pasture. Slope ~45°, soil in this area is very clay-like, so real slick after all the recent rain. Getting tired of falling down (done a lot of it the last few days...). Area seemed a little drier than what we've been trapping in, but perhaps not significantly so. Habitat similar to what we've been looking for: large trees, many vines + palms, understory patchily distributed – lots of herbaceous growth in some spots, usually near a slope or where a tree has fallen, and very sparse in other areas. Floor covered with dry leaves, a few logs. Returned to the hotel ~1800 and had a big dinner at the restaurant. Spent the late evening preparing study skins. Most of the ♀ Heteromys we've been catching are fairly young – usually nulliparous. Some of the ones today, however, appear reproductively active. The P. mexicanus, also, appear reprod. active. See D.S. Rogers' catalogue for data. Turned in ~2200.

Playa Escondida, Veracruz, to Catemaco, Veracruz, Mexico.

8 December Arose ~0645. Hiked over to hill by cow pasture to check traps. Caught 12 Heteromys desmarestianus, two of which are very young – recently weaned. Many traps were visited but not sprung. Duke caught 8 more Heteromys, 3 Peromyscus mexicanus. Had breakfast at the restaurant – met 3 people from Texas

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Playa Escondida to Catemaco, Veracruz, Mexico.

December

Heteromys were caught both in the areas of denser understory and along logs, natural "corridors" in the more open areas. Again, note ongoing reproductive activity. Decided to trap for a night in an area just S. of Catemaco that Duke thought looked pretty good, so we packed up and moved to a hotel in the city of Catemaco (Hotel Cristal = 264p.) Elevation at all above trap sites probably no more than 50m-100m. Spent early afternoon stocking up on groceries, etc. Skinned, took tissues on some Peromyscus. About 1530, headed S on Hwy 180 to find good spot to trap. Difficult to do as entire area is heavily used for grazing + agriculture - mostly open pasture with only small patches of forest. Duke dropped David + I off at a point 9.5 mi SE Catemaco by rd. to set traps in what looked like a forested area. It turned out to be a coffee finca, so we hiked across the rd. + SE a short distance and set traps in the forest there. Slope ~30°, w-facing. Trees not that large - a few w/ DBH of ~2ft. Dense w/ saplings, vines, young coffee plants, trees w/ DBH of <1ft. Leaf litter floor, not much herbaceous cover. We each set 20 Shermans w/ hen scratch. Duke set 35 Shermans at a locality 8.3 mi SE Catemaco by rd in the meantime. Returned to hotel, made dinner. Spent evening preparing study specimens. There is an American who

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Playa Escondida to Catemaco, Veracruz, Mexico

December is the financial owner (his girlfriend is the official one) who is trying to be helpful + friendly, but too much disturbance here to spend tomorrow karyotyping. Will pull traps + leave in the morning. Wrote a short stack of postcards + turned in ~2230.

Catemaco to Cordoba, Veracruz, Mexico

December Arose ~0630. Drove SE on Hwy 180 to check traps. I caught 1 Heteromys and 5 Peromyscus mexicanus. Should have caught more, but many of my traps had been set off and/or overturned by some animal— notably 3 set along a large log, 2 along a rotten stump, + the last 3 after that = 8 traps sprung. Too bad. David caught 1 Heteromys desmarestianus, 2 P. mexicanus, and 1 Oryzomys (Duke unsure if couesi or melanotis or?). Duke caught 1 Liomys (sp? = pictus?), 1 Sigmodon hispidus, 2 Oryzomys (sp?), and 11 P. mexicanus. Returned to hotel, ate breakfast, packed, + left. Elev. at above sites estimated to be ~100 m. Drove N. on Hwy 180 to a point just south of Veracruz, then headed W on Hwy 150 to ~~Catemaco~~ Cordoba. Arrived ~~Catemaco~~ Cordoba ~1500, found place to stay (Motel Buena Vista, just outside town ~375 pesos), ate dinner + spent the evening karyotyping, taking tissues, preparing specimens. Many of the ♀'s, both Heteromys + Peromyscus, have embryos. See D.S. Rogers' catalogue for data on specimens prepared. Turned in ~2200. Day was hot, sunny, humid = ~27°C.

[margin note beside "couesi": decided on couesi]

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Cordoba, Veracruz, Mexico

December — Arose ~0630. Morning overcast, but cleared up by ~1000. Ominous clouds moving in – cool, ~15°C. Spent the day taking tissues, preparing specimens – holed up in the old hotel all day. Tomorrow will head for Ojo de Aguas. Turned in ~2130. (see D.S. Rogers' catalogue)

Cordoba to Ojo de Aguas, Veracruz, Mexico

ecember — Arose ~0630. Packed car, ate breakfast and left hotel, heading W. of Cordoba on Hwy 150. About 2-3 mi. W of town, turned N on rd. leading to Potrero Viejo. Directions to Ojo de Aguas (source of River Atoyac) are as follows:

1.4 mi down rd. to Potrero, turn L (toward town of California),
0.0 (at turn for Ojo de Aguas – .3 = railroad crossing,
.5 = sharp curve to right, .6 – take right fork,
1.7 – take straight rd. on 3 way intersection;
1.9 – take right fork, 2.1 – turn L on larger dirt rd;
2.9 – take L fork; 3.9 – Ojo de Aguas = dead end in rd.

Arrived ~0940. Explored the area for about an hour, then began setting traps. Day is sunny, cloud cover gradually increasing throughout afternoon. Cool, midday T° ~ 25°C. Ojo de Agua is in an area at the edge of a plain heavily used for agriculture – mostly sugar cane. The low mountains are covered with mature forest – slopes moderately steep ~45°, very rocky – which comes down to the river and borders the cane fields. I set 80 traps here, as did Duke. First line is in a very rocky hillside, then in the secondary growth alongside the trail leading from the rd. to the spring.

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Cordoba to Ojo de Agua, Veracruz, Mexico

Dec. cont. Second line is also along the trail in secondary growth, then moves up the hillside. Along the trail the ground is flat, not much herbaceous cover but dense low canopy due to saplings, vines + brush. Back on the hillside the trees are large, leaf litter on floor, fewer vines, but very rocky - in some areas the hillside is solid rock with large crevices. Line three was set half in dense secondary and half in an area along the river with a canopy of coffee trees ~ 10-15' high (3-5 m) and a lush ground cover of ferns and herbaceous plants ~.3 m high. The fourth line was set in habitat similar to that just described (latter half or line 3). I am not overly pleased with some of these areas - the more mature-looking forest is too rocky to have many Heteromys, though, I imagine. Available area to trap in is thus limited. Duke + David set up two mist nets near the stream by the road to catch bats tonight. Checked the nets shortly after dark (~1930) - caught 1 ~~Rhogessa~~ Rhogeëssia sp. and 1 Myotis nigricans. At ~2030, there ~~were~~ were approx. 30 bats in the nets: 4 more Myotis nigricans, the rest Sturnira lilium and Micronycteris (?). The Myotis were kept, as was the Rhrogeëssia, but the Phyllostomatids were released. Three more checks of the net, approx. each half hour, yielded about 2-3 dozen more Sturnira + Micronycteris, which were released.

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Cordoba to Ojo de Agua, Veracruz, Mexico

Dec. cont. Furled nets ~2200. Turned in ~2300. Vespertilionids only caught early in evening, Phyllostomatids seem abundant during entire period of netting.

Ojo de Agua, Veracruz, to 25.8 mi SW of Tuxtepec, (by rd) Oaxaca, ~~Veracruz~~ Mexico

January Arose ~0700. Checked traps - caught 20 P. mexicanus, 1 Heteromys desmarestianus, 1 Oryzomys fulvescens. Caught only a single Peromyscus in the area under the coffee plants - also had an animal (probably a Philander, as there is a lot of fruit rinds, etc. around) overturn + set off about 7-8 traps in this area. Peromyscus abundant on the rocky hill sides, slightly less so in the secondary along the trail. Both the Heteromys and the Oryzomys were caught in secondary near the trail - the latter where it was especially dense. Duke had better luck - 1 Oryzomys, 7 Heteromys, 26 Peromyscus. He had good luck on Heteromys in the flatter areas - the secondary he set in was denser, lusher in terms of foliage, more ground cover. Day sunny, clear, warming fast. Ate breakfast, packed, left camp ~1100. Returned to Hwy 150, headed E. Took S turn towards Tierra Blanca; Just past Tres Valles Turned SW towards Tuxtepec. Stopped to pick up some food, headed SW of town. Stopped at a roadside turnout 25.8 mi SW of Tuxtepec to camp, set traps ~1500. I set 40 Shermans / hen scratch in a patch of forest on the W. side of the road, across a small field.

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January, cont

Ojo de Agua, Veracruz, to 25.8 mi SW of Tuxtepec (by rd), Oaxaca, Mexico

The area has a canopy of large (DBH up to 1m.) broadleaf trees, lots of Philodendron-type vines covering trees, logs, rocky outcrops. There are large rock outcrops, "cliffs," and caves/natural bridges + arches in the area with patches of flat ground between them. Ground has lush covering of leafy herbaceous plants. Duke also set 40 traps in this area. Elev. ~100 m. After dinner, spent the evening preparing study specimens from the P. mexicanus caught this morning. A note on P. mex: lots of variation, esp. in tail. Those from Ojo de Agua have a distinctly bicolored tail w/ moderate hair covering. Those from Catemaco area have all dark, mostly naked (rat-like) tails. Clouded over during late afternoon. Completely overcast when turned in ~2200. Began raining at this time.

January

25.8 mi SW Tuxtepec to Vista Hermosa, Oaxaca, Mexico

Rained throughout early part of night. Still overcast, dark, a little misty in the morning. T° ~ 20°C, though. Checked traps (very wet....): caught only two P. mexicanus. Duke, also, only caught 2 P. mexicanus. Poor results may be due to weather as habitat looked more promising than that. After breakfast, headed back along Hwy 175 to Tuxtepec to get ice, groceries + supplies for a few-day excursion up into the mts. Left town ~1100, heading SW on Hwy 175 again.

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25.8 mi SW Tuxtepec to Vista Hermosa, Oaxaca, Mexico

January — Continued to a pt. ~ 1 km N (by rd) of Vista Hermosa, a small settlement about half way between Valle Nacional and Ixtlan de Juarez. Pulled off the road to finish stuffing a batch of P. mexicanus, but discovered the car wouldn't start afterwards (lights had been left on — battery low). Duke + I walked up to Vista Hermosa, but no help there. I stayed w/the car + flagged down the occaisional passing vehicles until one with jumper cables was located while Duke took 40 traps and went to set them on the S. side of Vista Hermosa (see D.S. Rogers notes for habitat, trap site). The area we have been driving through has lots of tree ferns, vines, fairly dense growth along the road sides. Elev. ~1000 m. It is raining or misty continuously (all afternoon + evening so far) as well as cold (T° ~ 10°C.) and windy. Very uncomfortable. Plan to camp here tonight then head for even higher elevations. Miserable weather, but had a good dinner (bought a roasted chicken in Tuxtepec!) Helped skin 8 P. mex that died during the day before turning in. Poor tent — (poor us.)

Vista Hermosa to 5.2 mi NE (by rd) El Machin, Oaxaca, Mexico

3 January — Arose ~ 0700. Sunny, clouds rapidly dissappearing, warming quickly. Spread everything out on the car to dry + made breakfast while Duke checked his traps. He caught 8 P. mexicanus, 8 Oryzomys caudatus (?), 2 Heteromys / 40 traps.

E. Heske
1981

Journal

<u>Vista Hermosa to 5.4 mi NE (by rd) El Machin, Oaxaca, Mexico</u>

January, cont. Spent most of the morning preparing study specimens while the sun dried out our gear. Headed S on Hwy 175 towards Oaxaca ~1100. Habitat becomes Pine, oak forest shortly past La Esperanza; lots of relatively undisturbed forest on both sides of the road. Stopped at a roadside turnout 5.4 mi NE El Machin (16.5 mi SW La Esperanza) to camp + set traps ~1300. I spent a couple hours helping David look for salamanders (only found 1, he found 5: see D.A. Good's field notes). I set 40 Sherman traps / hen scratch on the S side of the road. Habitat is 30° N-facing slope, stream at bottom and occaisional streams running down slope. Very moist. Lots of moss-covered fallen logs, large trees. Patches where slope is very brushy + overgrown, others where mostly logs, rocks cover the ground. Moss in the trees. The opposite side of the road is drier, fewer logs + smaller trees, leaf litter floor (S-facing slope). Duke 20 traps here in addition to 40 on the S. side. We are almost at tree line here, well above the clouds. On the hills the pines + oaks are somewhat stunted. David said botanists describe the type of forest on the S-facing slopes as "elfin". It is cold - can see my breath in mid-afternoon. will probably go below freezing tonight. Spent the evening huddled around a campfire and turned in ~2130.

E. Heske
1981

Journal

5.4 mi NE El Machin to Oaxaca, Oaxaca, Mexico

January

Arose ~0700. Sunny, very cold but warming fast. There is frost on the trap boxes, etc. Wind ~30-40 mph. I caught 7 P. melanocarpus and 1 Reithrodontomys. One of the Peromyscus died in the trap (hypothermia). The results were somewhat disappointing - my first 20 traps were set in an area with numerous large mossy logs + only yielded 1 capture (a double capture - 1 large ♀ P. melanocarpus and a smaller subadult ♂ (possibly from last litter?). Traps set in more open "corridors" and at tree bases were notably unvisited. Most of the captures were from a couple dense thicket areas. Duke caught 10 mice on his 40-trap line: 6 P. melanocarpus, 3 P. tomasi, 1 Oryzomys (alfaroi-type?) - 4 died in traps (all P. melanocarpus). The 20 traps on the drier slope yielded 4 P. melanocarpus, 1 of which died in trap. After breakfast, we continued S on Hwy 175, looking for a site where David wants to look for herps. Rd. on right at town of La Cumbre, ~20 km N of Oaxaca. Top of mt. range has lots of pine-oak forest - looks like good trapping area, although some steep slopes. S side of range dry, some cacti, trees thinner. The area we looked for herps in has pine-oak but trees are smaller (DBH ≤ 1 ft), dry leaf litter + needles on floor, no herbaceous growth (but some brush in open areas), mossy logs. Didn't find any lizards, but found 12 salamanders, primarily under

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5.4 mi NE El Machin to Oaxaca, Oaxaca, Mexico

an. cont. bark on large fallen logs. Most are Thorius (sp?) that look like a Batrachoseps, and wiggle like one when disturbed, as well. Others look like an Aneides. See D.A. Good's catalogue. David found ~20 salamanders and a small colubrid snake. I spent part of the time there stuffing some more mice while David looked for herps + Duke fed the live mice + cleaned cages. Left ~1700, got a room at a motel just outside of Oaxaca (~1 km E of where Hwy 175 joins Hwy 190) = Motel Costa Rica — 350 Pesos. Nice to be in warm weather again. Turned in ~2130.

Heske, E.J.

1981

Journal

calif.

E. Heske
1981

Journal

UC, Berkeley, Alameda Co., to Isabella Res., Kern Co., Calif.

May 8 Left UC ~ 1700. Travelling in 3 vehicles: Beth Braker + Phil Brylski in Beth's pick-up; Larry Riggs, myself + 3 107 students in Larry's van; 3 more 107 students in a 3rd car. Headed S on 580 to I 5, turned E on Hwy 46. Stopped for dinner at Hwy 46 exit ~ 2100. Continued on along Hwy 46, turning S on Hwy 99, then E on Hwy 178. Pulled off on a side rd. alongside Isabella Reservoir (mileage unknown) for the night at 0230. I set 15 traps (Sherman non-folding baited w/ oatmeal) before turning in; Phil set 9 baited w/ PB and 2 students (Cathy + Marina) set an additional 9 baited w/ PB. Habitat was Coulter pine, hilly terrain with many large boulders, rock piles, and brush (Chrysothamus viscidifloras, C. nauseosus, some short scrubby oaks and ~~[illegible]~~ mesquite(?)). Prickly pear, penstemon, mustard, morning glory + many other plants in bloom. Clear, bright night (3/4 moon). Warm - barely need a jacket, no wind. Elev. ~ 3000 ft.

23 May Isabella Res., Kern Co., to Yucca Valley, 7.5 mi E Hwy 14 at Coso Jct., Inyo Co., California

Arose ~ 0600. Clear, no wind, ~ ~~[illegible]~~ 18°C. Checked traps - caught 2 Peromyscus boylei, 1♂ w/ descended testes, 1♀ w/ nipples well worn but apparently not lact. There was a lot of sign of Neotoma lepida

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1981

Journal

Isabella Res., Kern Co., to Yucca Valley, 7.5 mi E of Coso Jct. (Hwy 14), Inyo Co., California

3 May, cont

habitation in the mesquite brush and rocky areas above camp. The other teams caught 3 Neotoma (2 ♀, with well-worn nipples, 1 ♂ w/desc. testes) and 3 Peromyscus. Peromyscus were released unsexed - Phil thought they were maniculatus. Ate a pokey breakfast, broke camp + left ~0945. Continued E on Hwy 178 over Walker Pass, pulling off on a dirt road S of Hwy 178 to Robber's Roost. Road was 6.4 mi W of intersection Hwy 178 and Hwy 14. Spent the late morning, early afternoon hiking to the rocks through a Larrea, Atriplex, Artemesia, Chrysothamnus flatland. Lots of lizards: Cnemidophorus tigris, Callosaurus draconoides on the flats, 1 Sceloporus magister juv ♀ found in a Yucca bush, 1 Phrynosoma platyrhinos found on flats, 1 Uta stansburiana on the rocks. No falcons seen in rocks, but 1 Barn owl (Tyto alba). Lots of holes w/ white wash. Phil says prairie falcons have been known to breed here. Owl pellets yielded Neotoma and Dipodomys skulls. Also noted Lepus californicus, Ammospermophilus leucurus. Sunny, hot ~32°C, but clouds building up. Left Robber's Roost ~1450.

E. Heske
1981

Journal

3 May — Isabella Res., Kern Co, to Yucca Valley, 7.5 mi E Coso Jct. (Hwy 14), Inyo Co., California

Turned N on Hwy 14, heading toward Little Lake. At Coso Jct., just past Little Lake, pulled off at the rest area. Headed E on the road behind it, towards some low hills. At 7.5 mi, took a left turn (1st left after gate at entrance to navy property). Drove ~1 mi along this road until habitat became valley with Joshua trees, yucca, Chrysothamnus and Artemesia between rocky hills. Stopped here to camp. I set 23 Sherman traps baited w/ PB and oatmeal about 10 m apart in a line from the road to a large rockpile and then back. Lots of sign of rodent activity (burrows, paths). Also lots of scorpion + wolf spider burrows. The rest of the class also set traps = 140 total. Many belly plants in bloom, and bladder sage. Noted an occaisional cholla cactus, also. Ate dinner during late dusk, spent the evening sitting around with the group. Turned in ~2230. Clear sky, ring around moon, warm ~15°C.

24 May — Yucca Valley, 7.5 mi E Coso Jct. (Hwy 14), Inyo Co. to Darwin Falls, Inyo Co., California

Arose ~0600. Sky clear, no wind, ~16-17°C. Caught 15 rodents in 22 traps (workable) — the few traps not catching mice either didn't spring or were

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Yucca Valley, 7.5 mi E Coso Jct., to Darwin Falls,
24 May Inyo Co., California

closed but empty. Spent the morning checking all the animals people caught, showing how to ID, etc. Total captures were 78 out of 140 traps. I caught

1	Peromyscus ~~boylei~~ maniculatus	1♂
5	Perognathus longimembris	1♂ 4♀
2	Perognathus formosus	2♀
1	Dipodomys merriami	1♀, early pregnancy
5	Dipodomys microps	3♂, 2♀ males ~~scrotal~~ scrotal, but in late stages of regression
1	Neotoma lepida	1♂, scrotal

other species captured were Peromyscus boylei and Peromyscus crinitus; Onychomys torridus.

Trap summary:

	♂	♀	T
Peromyscus maniculatus	10	2	12
P. boylei	2		2
P. crinitus	3	2	5
Dipodomys merriami	3	3	6
D. microps	12	7	19
Perognathus formosus	5	5	10
P. longimembris	7	13	20
Onychomys torridus		1	1
Neotoma lepida	3	1	4

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Journal

24 May cont.

Yucca Valley, 7.5 mi E Coso Jct. (Hwy 14) to Darwin Falls, Inyo Co., California

Surprisingly, 1 ♀ D. merriami showed signs of reproductive activity: vagina perforate, nipples developed (no milk), notched pelvis (but not wide) - possibly pregnant. No Perognathus were repro. active, Dipodomys males were in late stages of scrotal regression, Cricetines were repro. active in general. Phil kept several animals, I took 2♂, 2♀ of both species of pocket mouse to give to Duke Rogers. All others were released. Ate breakfast, etc. Left sometime in late morning, prob. near noon. Returned to Hwy 14, headed N, then E on Hwy 190. Turned S. on Darwin Road, drove 7.4 mi along dirt road to turnoff (right side of rd) to Darwin Falls. We are camping in a narrow canyon, very rocky. Gravelly, rocky soil; sparse vegetative cover of Sagebrush (Artemesia), Rabbitbrush (Chrysothamnus visc.), and Creosote (Larrea). Arrived ~1530. Hiked up a narrow, rocky canyon with a stream running through it — lots of willow, some cottonwood, tall grasses, reeds, some cattail, and lots of forbs → pervasive smell of celery in some places and abundant growth of wild celery plants. We went swimming — or rather showering — under a spectacular waterfall in the rocks about a half-hour hike from where a chain blocks the road and cars must be left. Harry Green, Kurt Schwenk

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Journal

Yucca Valley, 7.5 mi E of Coso Jct. (Hwy 14) to Darwin Falls, Inyo Co., California

May cont

and Jim Stuart showed up while we were there. Saw many Bufo boreas in the stream. Phil + I left the group and returned to camp to set traps at sundown. I set 18 traps in the canyon W. of the campsite (about 2 mi down Darwin Falls turnoff, where chain blocks road + old homestead is). Very gravelly, rocky soil with lots of Larrea, a few Artemesia. Set 20 more traps in a slightly sandier area with more sage, some Larrea and Chrysothamnus alongside road about .5 mi S of homestead. During process of setting traps, I almost stepped on a Crotalus mitchelli, which Phil + I restrained in a cardboard box until Harry came to collect it. Also collected a good-sized Tarantula to show the students - then released it. Been seeing several bats - some larger, light colored ones which may be Antrozous pallidus, and some smaller ones - either Myotis or Pipistrellus. After dinner, went night-driving for herps. I went with Kurt, Jim + Maurina, the rest of the group went with Harry in Larry Riggs's van. We made two runs along Hwy 190 from Darwin Rd. W. to the scenic viewpoint pullout overlooking the Panamint valley. We collected 5 banded geckos (Coleonyx variegatus) and 1 Uta.

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Journal

Yucca Valley to Darwin Falls, Inyo Co., California

May cont. Saw one Perognathus run across the road; a roadkill proved to be P. formosus. Harry's group caught one rattlesnake (Crotalus mitchelli) and 1 leaf-nosed snake (Phyllorynchus decurtatus) in addition to a few Coleonyx. Returned to camp about 2230. Could hear an occaisional burro, and lots of burro tracks and feces in the area. Night clear and warm - 23°C. Few ~~[illegible]~~ mosquitos, mostly moths, antlions, etc. attracted to lantern. Turned in ~2330.

E. Heske
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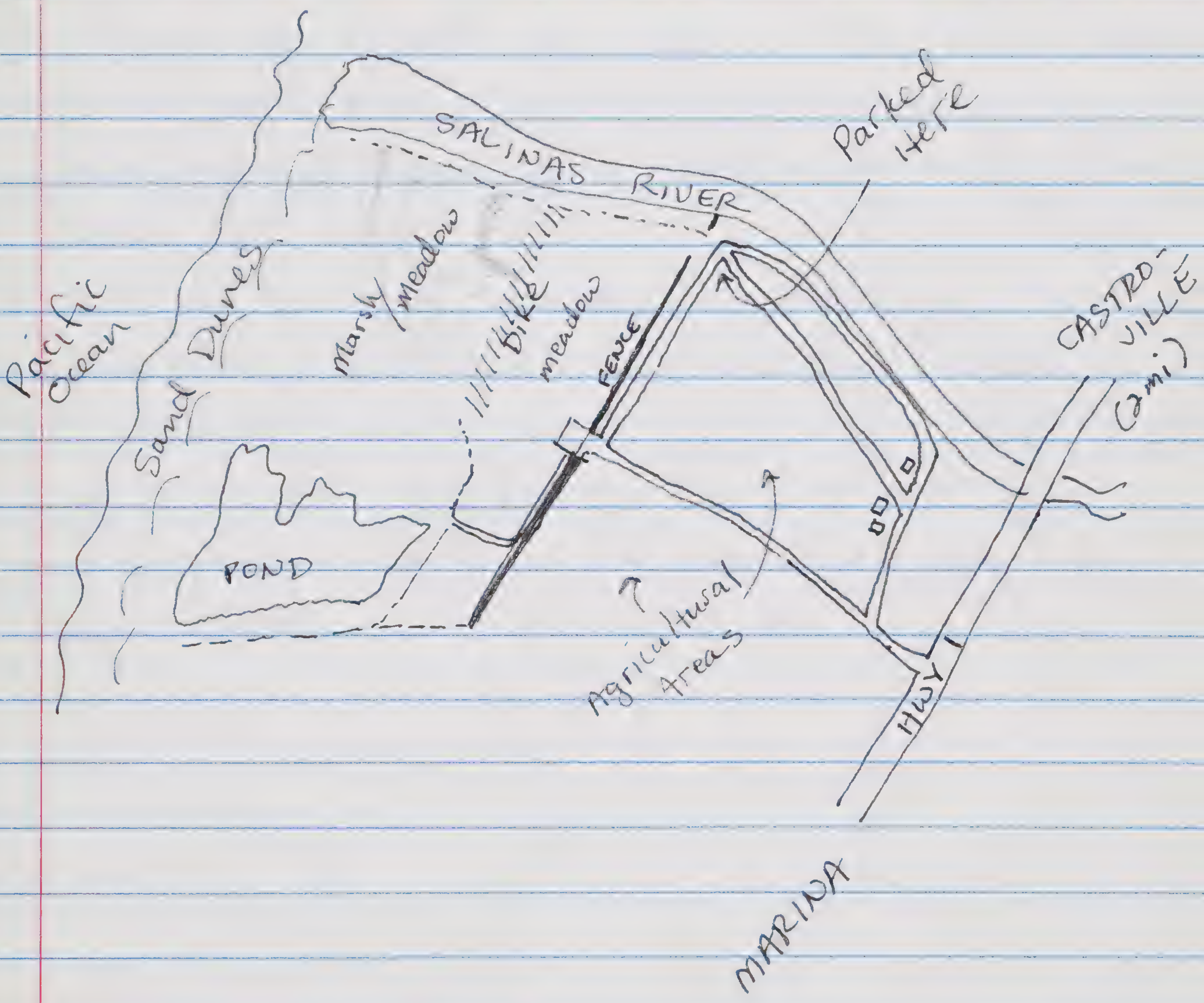
Journal

23 January   South side of Salinas River mouth, Monterrey Co., California

Left Berkeley 1430 without Rick Warner, as I couldn't locate him. Arrived ~1715 at Salinas River where it is crossed by Hwy 1.



Clear, warm (~60°F) = 16°C. Light ~~west~~ east wind (i.e. – blowing to the west). Sun about to set. I carried two boxes (60 traps) of Longworths along the river to a raised dike, then cut in toward the pond. Set 30 traps baited with oatmeal and peanut butter in a line w/traps set 10 m. apart. Got too dark to

F. Heske
1982

Journal

3 Jan. cont. South side of Salinas River mouth, Monterrey Co., California

set any more. Kept running into very wet areas with standing water. Will have to set the rest tomorrow morning. Got the car stuck in a rut trying to get out for a cup of coffee, so am having to spend the night in the back seat. Will deal with all this in the morning.

South side of Salinas River mouth, Monterrey Co., California

January Got a late start — 0800. Very windy last night but not too cold (nowhere near freezing). Sunny and clear, brisk and gusty wind from the east (offshore), already warm ~13°C. Checked traps — no captures. Hiked around a bit and got very wet — hard to tell from the vegetation just where the standing water is.

Heske, E. J.

1982

Journal

Costa Rica

E. Heske
1982

Journal

16 July — San José, San José Prov., to 2.2 km E (by rd) Trinidad, San José Prov., Costa Rica (elev. 2600 m).

Finally finished all preparations in town and left to begin trapping (1230). It rained heavily at ~1200, but is letting up, remains overcast. Some useful addresses in San José:

Hotel Galilea: Avenida Central, Calle 13
speak English, very helpful – change money there at a rate of ₡62/$1. Room for 1 ≈ $12.50.

Pensión Canada: address unknown, another good (cheap) hotel

Permit office: Av. 2, Calle 6, 3rd Floor
person in charge: Sr. (Dr.?) Eduardo Lopez Pizzaro

Facultad de Medecina, Univ. of Costa Rica
Pedro Leon or Tony Moreno speak english and are very outgoing, helpful (24-67-49 = Pedro's phone)

P.S. the water is safe to drink.

Followed Hwy 2 E. out of San José to Cartago. Continued S. on Hwy 2, missed turnoff to Copey and decided to trap in the vicinity of Trinidad. Began setting traps ~1530. Overcast, damp, cool (~15°C?). I set 60 traps (Sherman w/ scratch grain) in a line going down the hill from the rd. Forest is mostly lg. (~150' tall) oaks, other broadleafs unid., some pines in places – a large clearcut and landslide make for some dense secondary growth near the edge, lots of bamboo + other vines. 15 more traps set in mature forest further E along road, but traps all set near road edge. Getting too dark

E. Heske
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Journal

2.2 Km E (By rd) Trinidad, San José Prov., Costa Rica 2600m

16 July, cont — too see where traps are being placed in the forest, so stopped ~1800. There are several patches of mature forest here - separated by small clearcuts. It looks about as patchy as a Doug fir forest in N. Calif. (mixture of forest / cuts). We camped at a roadside pullout, 12.2 km. further east along Hwy 2. (saw a roadkill Coendou here.)

2.2. Km E (by rd) Trinidad, San José Prov., Costa Rica 2600m

17 July — Arose ~6:30. Clear, but everything is damp from the foggy night. Drove back to trapsite + checked traps:

upper line of 15: 2 Peromyscus nudipes
1 Reithrodontomys sp. (small = megalotis size) mexicanus?

lower line down along hill: 1 Oryzomys sp (small, dark)
1 Peromyscus nudipes
1 Reithrodontomys creper (?)
1 Mustela frenata (see catalogue)

We are unsure at present of some of the sp. of Reithrodontomys + Oryzomys. There are 3 diff. Reithros and 2 diff Oryzomys (maybe 3). See catalogue of D.S. Rogers for final decisions. All animals captured will be catalogued there.

Duke set 90 traps, caught: 2 Scotinomys teguina
7 Reithrodontomys (3 sp.)
6 Peromyscus nudipes
1 Heteromys oresterus

Phil set 80 traps, caught: 2 Oryzomys (1 small, 1 large)
1 Reithrodontomys (small)
2 Peromyscus nudipes

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Journal

2.2 km E (by rd) Trinidad, San José Prov., Costa Rica 2600 m

7 July, cont. what we are calling Reithrodontomys creper are about 225 mm. long w/ a white-tipped tail – they were caught in mature forest. The small (megalotis-size) Reithros were caught in secondary growth near the roadside. One med/lg (~185 mm) Reithro. was caught that appears to be yet another sp. – it lacks the white tail-tip and has a more orange-colored venter. Also the penis is much smaller than creper. In the latter, the flap on the ♀ is as large as the penis on the ♂ – huge for a Reithro! At least 2, maybe 3 sp. of Oryzomys, one as large or larger than P. nudipes and one more the size of the R. creper. We spent the morning making study skins out of all 11 P. nudipes. Began setting traps again at ~1430 in an effort to catch more Heteromys. I set a line of 20 going straight in off the road in mature forest w/ oak + some pine. Leaf litter floor, dense canopy, moderate under story, much rotten wood – floor is soft + sometimes step through it, sinking up to my knees. An additional 40 were set on generally flat terrain near a dirt road a little further east (~500 m). Some areas here have dense viny/brushy under story, but others have only herbaceous ground cover + leaf litter. Canopy is fairly dense, mature broad leaf trees. A final 30 traps were set in a more disturbed area at the

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Journal

2.2 km E (by rd) Trinidad, San José Prov., Costa Rica 2600m

July, cont. bottom of the clearcut, near a stream. Dark again, ~1800. It rained on + off again most of the day, especially late afternoon while we were setting traps. Light drizzle, heavy fog in the evening. Duke set 90 traps, Phil set 100. Returned to roadside pullout to spend the night after grabbing some dinner at a small truckstop/cafe/bar just W. of Trinidad.

2.2 km E (by rd) Trinidad to Tres Rios, San José Prov., Costa Rica

8 July Arose ~7:00. Clear, but everything is wet. One Reithro (the med-sized, rufous-ventered one) died during the night, as did one of the smaller Oryzomys (alfaroi?). We skinned them before proceding to check traps.

Lower line, disturbed near stream: 1 Oryzomys (alfaroi)

20 line, mature: 1 Reithrodontomys creper
1 Peromyscus nudipes
1 Heteromys oresterus (dying)

40 line, mature: 2 Reithrodontomys creper (1 dead)
1 Peromyscus nudipes

Duke caught: 3 Scotinomys teguina
1 Reithrodontomys creper, 1 R. sp (small)
5 Oryzomys (3 sp. = devius (lg); alfaroi (small) and 1 med. sized (unk.))

E. Heske
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Journal

22 Km E (by rd) Trinidad to Tres Rios, San José Prov., CR

18 July cont Phil caught 1 *P. nudipes*
1 *Reithrodontomys creper*
3 *Heteromys oresterus* (1 dying)

All *Heteromys* were caught in the same approximate area, including the one Duke caught yesterday. Overmature forest, rotten logs, dense canopy, moderate understory w/ leaf litter. Duke karyotyped the two dying *Heteromys* while Phil + I skinned them + 5 other mice (*Reithros* + *Oryzomys*, 1 *Peromyscus*) that were probably not going to live, either. Killed the weasel, (Phil did) and then photographed it — beautiful animal. A shame to collect it, almost... Left the trapsite ~ 1145, heading W. along Hwy 2 to try to find a locality near Tres Rios that M. Hafner wrote to Duke about. Stopped for lunch along the way — food is amazingly cheap. I had 2 chicken tacos, a chile stuffed w/ chorizo, an order of fried plantains, papaya juice + a coke for ~ $1.50. We spent a good part of the afternoon driving down dirt roads to the SE of Tres Rios to try to find a patch of mature forest near the mts. Mostly, we kept running into rather run-down "suburbs" of San José. The area still has patches of forest, but most of it is very disturbed w/ lots of brush, bananas + coffee. We finally came across a patch of marginally dense forest at the end of

E. Heske
1982

Journal

SE of Tres Rios, San José Prov., Costa Rica 1450 m

July, cont

one dirt rd. We'll have to figure out where exactly it is tomorrow... while checking out the area, we met a man named Oscar Mora, who owns a house + the surrounding land. He speaks english + was very helpful - offered to let us camp on his land, behind a closed gate so nothing would get disturbed. I set a line of 60 traps up a steep slope to the SE of his house - area is heavily disturbed with many paths + narrow road cuts - some minor woodcutting. Nearby they are drilling a tunnel through the mountain to carry a water pipe. Some large broadleaf trees (~100'), but mostly smaller ones (DBH only a few inches). Many vines + creepers. Leaf litter, moderate herbaceous groundcover. Doesn't promise to be very good *Heteromys* habitat. Duke set 70 traps, Phil set 70. Came back to the bus ~1730. Skinned the weasel while Duke stuffed a couple *Heteromys*. Oscar Mora invited us in for coffee. We spent part of the evening talking with him + his wife. They also have an 18-yr old son in a wheelchair (cerebral palsy), and a younger one at school in town. They offered to let us sleep in their house, which we accepted. Put up the skins we did this morning first, then went back to the house + went to sleep ~2130. A few clouds, but rain unlikely. Oscar says it hasn't rained here for 5 days. He grows coffee, bananas + pineapples here... Night is very warm, maybe 19°C...

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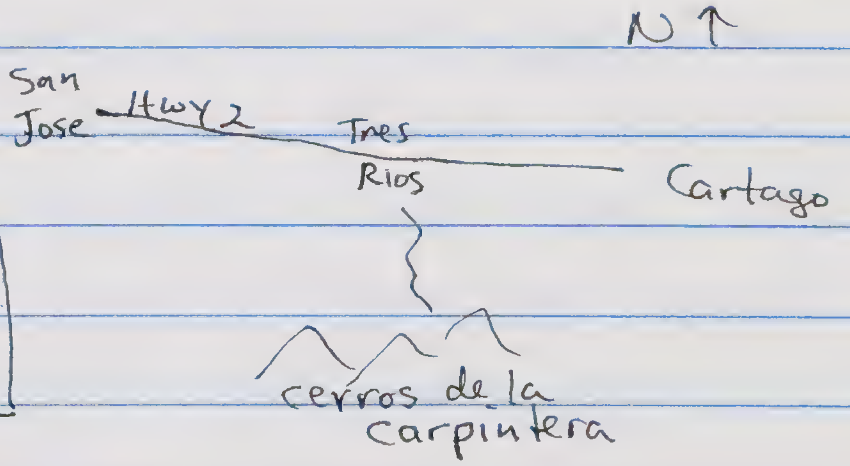
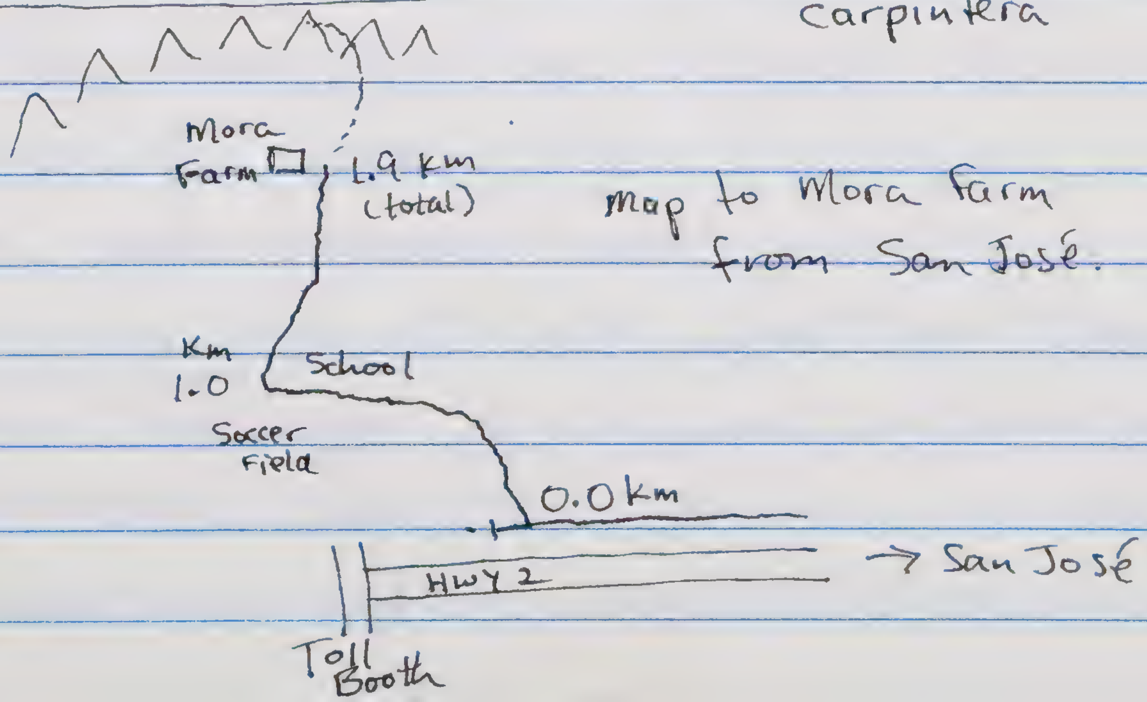
Journal

~2 km SE of Tres Rios, San José Prov., Costa Rica 1450m

19 July Arose 0630. Overcast, humid. May have rained lightly towards morning as car is wet, but everything else seems dry so more likely it's dew. Oscar called these mts. the Cerros de la Carpintera. There are many patches of forest within view, but they are hard to get to. There is a lot of human activity in the area and its likely they all have paths slashed through them like this (but who knows?) I only caught 2 *Scotinomys*, Duke caught 1 *Scotinomys* and one *Oryzomys alfaroi*, Phil caught 3 *Scotinomys*. We will head back to San José today + plan to karyotype the remaining animals. Skinned + stuffed 4 *Scotinomys*, then had breakfast. Coffee w/ Sr. Mora. We left a trap with him so he can try to catch something while we're gone. His address is:

Sr. Oscar Mora
Calle 5 Ave 22/24
Fabrica Conos-Ticos
San José, Costa Rica
tel. 26-14-71





map to Mora farm from San José.

E. Heske
1982

Journal

Tres Rios to San José, San José Prov., Costa Rica

9 July Arrived back in San José ~1300. Overcast + rain again. Checked back in to the ol' Hotel Galilea, went to lunch at the same old restaurant... Spent the afternoon stuffing the weasel + an additional 8 rodents which we won't be karyotyping tomorrow. Duke called Pedro Leon + arranged to use the lab tomorrow. Spent the evening looking through Hall + Kelson and Goodwin's Mammals of CR to figure out what the various *Oryzomys* + *Reithrodontomys* are —

San José, San José Prov., Costa Rica

20 July Spent the day working in the lab at U.C.R. karyotyping + taking tissues, etc...

San José, to Cañas, Guanacaste Prov., Costa Rica

21 July Left San José ~1230. Overcast + scattered showers. Headed NW on Hwy 3 out of town, to Hwy 1. We were delayed during the morning because the bus had been broken into + the tape deck ripped off... At Cañas, headed E on Hwy 19. There are several scattered patches of forest in the area, but much of the land has been cleared. A lot of cattle-grazing. I set a line of 60 traps, starting in some secondary and running up a moderate slope (~30-45°) with good forest 8 km NE of Cañas ~190m elevation. The forest is composed of broadleaf trees, some large (DBH ≈ 1ft) but many smaller, lots of vines and saplings. Leaf litter floor, but

E. Heske
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Vicinity of Cañas, Guanacaste Prov., Costa Rica

July cont lots of cattle trails criss-crossing the hillside. The patches of forest appear as islands on the landscape, and even the ones that look mature from a distance probably have cattle-sign + show a lot of dense secondary growth. Finished setting line ~1730. Duke + Phil each set trap lines at a different patch 3.8 km NE of Cañas. Duke saw a Potos in the trees there. There are also howler monkeys present (Alouatta) - Phil saw them, I could hear them later when we went back to the site. I looked for the Potos but didn't find it. Earlier today we saw a Sciurus variegatoides run across the road - new species for the trip (somewhere S. of Cañas....) Ate dinner in Cañas and camped in an old gravel pit just NE of town. Heard coyotes howling before we turned in... A warm, windy night - rain unlikely. We spent the evening stuffing the skins of mice karoytyped yesterday.

Cañas to Tilarán, Guanacaste Prov., Costa Rica

22 July Arose ~0630. Clear, sunny, warm. Some kind of insect bit the hell out me last night and I'm covered with welts. Traps only yielded 3 Liomys salvini - one caught in secondary, 2 in forest. Several traps empty of bait but not closed (ants?) Duke + Phil caught 7 Liomys each. They said that they were

E. Heske
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Journal

Cañas to Tilarán, Guanacaste Prov., Costa Rica

July very patchy — Duke caught 6 of his 7 in a series of 10 traps set along forest edge, for ex. ~~[illegible]~~ Headed along Hwy 19 to Tilarán to look for some good Heteromys habitat. The forest here is much more wet — lusher understory. Again, the forest occurs in patches + there is much cattle grazing, but some of the patches seem to be fairly extensive — especially the riparian zones along rivers — and they tend to form a mozaic (lots of them possibly bordering each other or sep. by small strips of pasture). Had breakfast in Tilarán, then stopped at a shady spot outside of town to snuff + stuff the Liomys. 6 were kept alive, the other 10 had tissues taken + were stuffed or preserved in alcohol (1 escaped...). We each set a line of 30 in a strip of riparian forest 4.1 km NE of Tilarán (650m.). Strip only ~ 50 m wide with river down center. Many vines, leaf litter floor — some places along edge clear of vines + saplings with dense herbaceous ground cover between trees. I saw two small armadillos in this vegetation (Dasypus novemcinctus?) and watched them until they went down into a small burrow at the base of some herbaceous vegetation ~1m tall. Burrow entrance ~ 30 cm across. Lots of sign of

E. Heske
1982

Journal

Vicinity of Tilarán, Guanacaste Prov., Costa Rica

2 July, cont digging in the area, possibly done by these critters. Lots of biting gnats down by the river – got bitten all over face + arms – look like I just lost a fight (badly...) Continuing NE of Tilarán, take L. at fork in Rd (toward Arenal). Stopped to set more traps in another patch of forest 5.0 km NE Tilaran (675 m) within sight of Laguna de Arenal. I set 50 traps in the forest on the W side of the rd, Duke set 30 there and 10 in tall grass along road side. Phil set 50 traps in forest to E of rd, down hill across a pasture. Understory very dense with brush, saplings + herbaceous growth near edge, but clears out once inside forest. Floor becomes more open – still lots of vines, but mostly just leaf litter on floor. Spent the night in a hotel in Tilarán which cost ¢91 = ~$1.50. Windy, cloudy night with some scattered showers.

Tilarán to Liberia, Guanacaste Prov., Costa Rica

3 July Arose ~0630. Sunny, scattered clouds, very windy (which keeps it cool...). At the riparian trap site I only caught 1 Heteromys desmarestianus, Duke caught 2, Phil caught 6 Heteromys + 1 Oryzomys alfaroi. His better luck might be attributed to his trapping a slightly wider strip, and trapping near a small agricultural area (for the Oryz.?). Several of

E. Heske
1982

Journal

<u>Tilaran to Liberia, Guanacaste Prov., Costa Rica</u>

July, cont. my traps had been visited but not sprung. Perhaps they stuck, or perhaps the large cockroaches under the treadles kept them from going off — anyway, I felt I should have caught more. I neglected to mention yesterday that we picked up a hitchhiker who told us that there were many tierciopelos (*Bothrops*) in the area. As if to prove him correct, later that day we were stopped by some people who said they were looking for antivenin because someone had just been bitten — Phil gave them 2 of our packets (I was off setting traps when this occurred.) Anyway, we've been lucky so far, but it's a reminder to be careful. Howler monkeys were heard in the distance as we checked traps in the riparian site. The large areas of grassland (prob. cleared for grazing, as the patches of forest are otherwise pretty dense) with their scattered trees flagged by the winds remind me of some kind of African savannah. The trap site nearer to Laguna de Arenal yielded 5 *Heteromys* to me, 4 to Phil. Duke got zikhed. Returned to Tilaran 0930 to check out of hotel + eat breakfast. Stopped outside of town later on so Phil could see if any of the ♀♀ were pregnant and preserve embryos. Several were (at least 3 —), and a couple of these

E. Heske
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Journal

Tilaran to Liberia, Guanacaste Prov, Costa Rica

July, cont. were killed + preserved now. The rest can await karyotyping in a few days. Saw a road kill Philander about 5 km. SW. of Tilarán. We continued NE along Hwy 1 after returning to Cañas via Hwy 19. Arrived at intersection w/ rd to Liberia sometime in the early afternoon, ~1400. Sunny, hot humid day. They are preparing for some kind of festival in Liberia - the independence day of Guanacaste, when it broke away from Nicaragua and joined Costa Rica. Found a roadkill Sciurus variegatoides along road earlier in day, (near Rio Villa Viéja). Skull was crushed, so it wasn't collected. A roadkill Tamandua (♂?) was found 6 km NE (by rd) of the intersection w/ the road leading to Liberia. Phil collected the skull - We decided the area right around Liberia was sort of crowded and as we were going to trap in the secondary growth for Liomys, we might as well just go to Playa del Coco and collect a sample from the coast (see the beach, etc., at the same time.) El Coco is a small tourist resort on Bahia de Papagayo. Duke rented us a room in the hotel there for ₡280 (~$4.50). We discovered that ~6 of the Heteromys had died en route due to heat generated by the transmission of the VW, so we had to prep. the specimens before we

E. Heske
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Journal

Playa del Coco, Guanacaste Prov., Costa Rica

July could do anything else. We went out at ~1630 to finally set traps - set them in the secondary and disturbed forest areas 3.9 km SE of El Coco in the vicinity of the local dump. I set a line of 30 in a forested area - the canopy is moderately dense with a few trees reaching DBH of 1-2', but mostly smaller. The area starts out flat but the trap line goes up the slope of a small hill (~50 m) then down a ravine. Leaf litter floor, lots of vines. The understory is readily traversed, but there is a good ground cover of both herbaceous monocot-like plants ~1m tall and a more leafy, woody-plants also ~1m tall or less... I also set a line of 20 in an area with bunchgrass (large bunches, ~1m high + 1m wide) and scattered saplings. Duke set 70 traps, Phil set 80. Returned to the hotel + spent the night in a bar - The area we are staying at is a small cove with a few islands in the entrance - some small yachts and other sailing craft anchored near shore. Nice beach, a few palm trees (coconut...), open air restaurant. Met an expatriate German (WWII pilot) who owns a finca near the Nicaraguan border (named Heinz) and a Costa Rican employee of his named Leonard - told us to go to the festival in Liberia tomorrow...

E. Heske
1982

Journal

Playa del Coco, Guanacaste Prov., Costa Rica

4 July Arose ~7:30. Ate breakfast at the hotel restaurant then went to check traps. I caught 5 Liomys salvini on my line in the forest and 3 more on the bunch grass line. Again, I had 3 traps on each line w/ bait taken but not sprung. Finally realized that its the lage grains of corn Duke bought for bait in Tilarán that are getting stuck under the treadle — have to be careful about just tossing bait into the traps from here on...
We caught only Liomys — Phil caught 6 and Duke caught 9. None of the ♀♀ seemed reproduct. active. I'm not sure what kinds of cues these rodents are using — the Heteromys seem to be maintaining at least a minimal level of repro. activity all year — Duke says the ♂♂ always are scrotal (but this doesn't necc. reflect reprod. activity) and he's caught repro. ♀♀ in all seasons. The variation in activity seems more local (populational) than seasonal. The secondary growth Liomys is found in is somewhat drier than the forest in which Heteromys occurs + there may be a more seasonal component cued to rainfall pattern or some such — I wonder what Irv. Zucker would make of all this — (photoperiod specialist...)
We put up a few of the Liomys as alcoholics or skeleton onlys, then went into Liberia

E. Heske
1982

Journal

Playa del Coco, Guanacaste Prov., Costa Rica

24 July, cont — to go to the festival.. Less than expected, but nice all the same. It was more or less just like a county fair from western U.S. (cattle, horses...) Guanacaste really is sort of a "wild west" province — has a gaucho-sort of flavor (cowboys + all...) Met some ♀♀ + spent the night in a disco... disco sucks. On the drive from Liberia to Playa del Coco (3-4 am) saw 1 roadkill Mephitis macroura, 1 live Mephitis, a family of Procyon lotor (1 adult + 2 yng), 1 Didelphis, and 3 or 4 cats.... Too bad we didn't pick up the road kill, because I've just noticed in Hall + Kelson that M. macroura has never been reported from CR, and I'm positive of the ID on both animals.

5 July — Playa del Coco to Tilarán, Guanacaste Prov. Costa Rica

Arose ~0830 — had breakfast + poked around most of the morning until we finally left the hotel at ~1100. Drove back along Hwy 1 to Cañas, then E on Hwy 19 to Tilarán. Checked into a hotel — ¢100 for a fairly new + nice place. By now (1400) it's raining again. Drove back to our riparian trap site 3.7 km NE of Tilaran and set traps in the wooded area by the stream on either side of the road — I set 30, Phil 40 — Duke was gone for quite a while and set 80—. We also set some traps in a small disturbed patch of woods right near town — I set 20, Phil set 20, Duke set 10. It rained all afternoon

E. Heske
1982

Journal

Tilarán, Guanacaste Prov., Costa Rica

July, cont. — and was still raining when we went to sleep...

Tilarán, Guanacaste Prov., to San José, San Jose Prov., CR

July — Arose 0630. Still overcast, but rain has let up. I caught 1 *Liomys salvini* in the traps set near town, Phil + Duke caught Ø. At the riparian site I caught 4 *Heteromys*, Phil caught 1 *Heteromys*, Duke caught 5 *Heteromys* and 1 *Oryzomys fulvescens* (looks just like a small *Reithrodontomys*.) We returned to Hwy 1 + drove back to San José — scattered showers most of the way, rain in San José. Stopped briefly at the University to arrange for lab space tomorrow, then checked into Hotel Cocori on Av. 3, Calle 16 — only ~₡400 for a room. Headed out of town towards *Escazu* to look for a place to pick up some *Liomys*. Stopped along the road at a spot *4.6 km W. of Escazu* along Hwy 7. simply because by now it was 1700 (and raining...) I set 23, Phil set 30, Duke set 30 — area is surrounded by coffee plants — a small patch of disturbed forest, dense undergrowth with patches of herbaceous ground cover, dense vines, bamboo... not very promising in my opinion. Returned to San José, had dinner, turned in ~2200. Still raining.

San José + vicinity, San José Province, Costa Rica

27 July — Arose 0630 — overcast with occasional drizzle. Drove back to *Escazu* to check trap lines — the only

Journal

San José + vicinity, San José Prov., Costa Rica

July capture was a single *Sigmodon hispidus* caught by Phil. Spent the rest of the day karyotyping, etc., in the lab at U.C.R. At ~1600 Phil + I drove back towards Escazú to try some more trapping. The director at the lab told Duke there was a patch of mature forest near Villa Colon, so we went to look for it – got to a town on the other side of Escazú, but couldn't find a forest. It was already 1700, so after looking around for awhile + asking a few questions (no good answers...) we set a few traps in a patch of disturbed forest 1 km W, 4 km N Escazú. Dense growth of brush, tall grasses, vines in understory. Some of the large trees were bearing fruit and many bats appeared at dusk – large – wing span easily over ~~30~~ 50! cm – prob. *Artibeus* (?). Area surrounded by coffee plantings or cattle pastures. Doesn't really look that promising. Overcast, but no rain.

8 San José + vicinity, San José Prov., Costa Rica

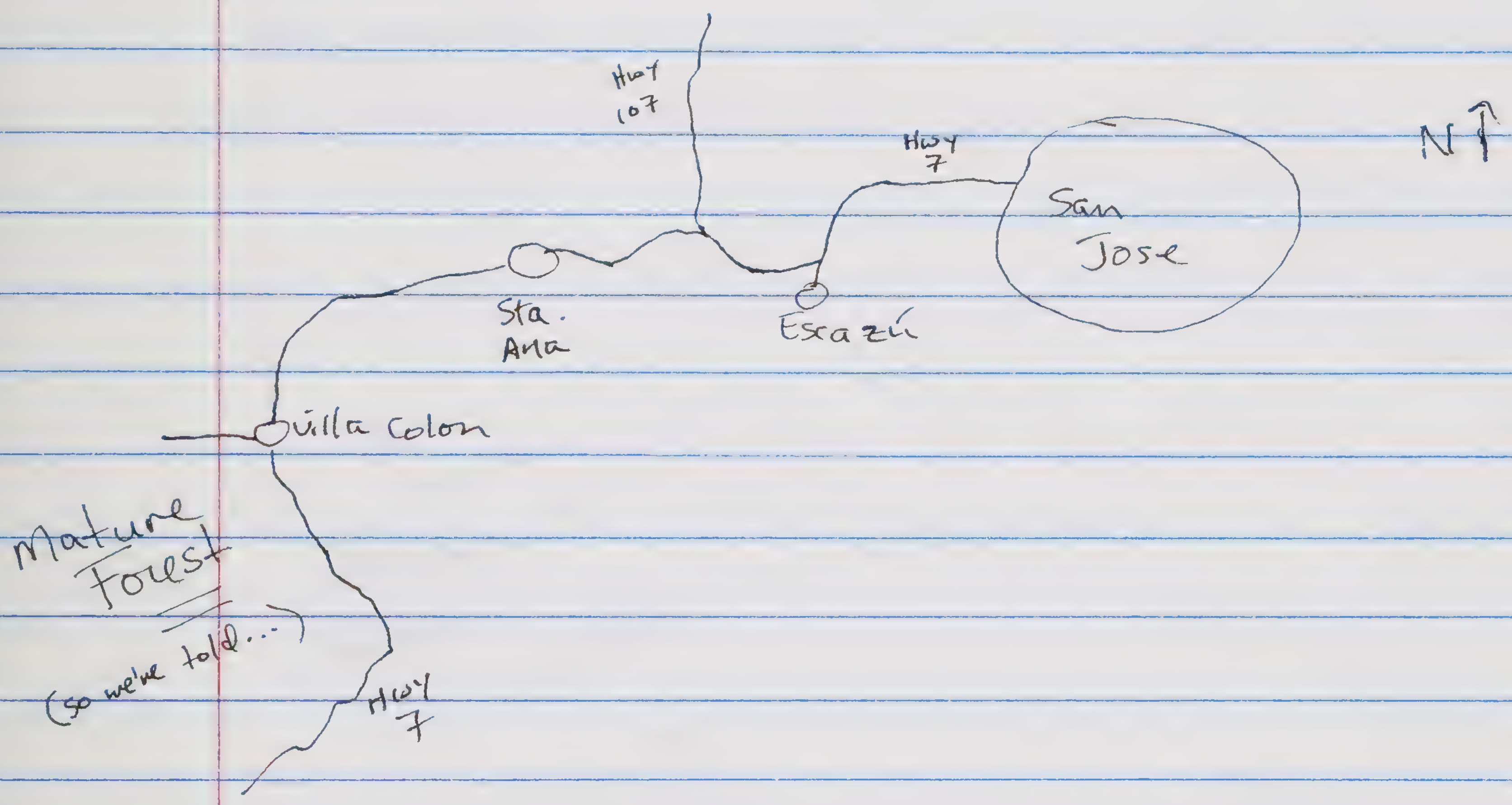
8 July Arose 0630. Went with Phil to check traps (I set 30, Phil set 50). Both got zilched. Drove to Villa Colon, further down the road (Hwy 7) after realizing that the town we had stopped in was Sta. Ana rather than Villa Colon. Still no sign of a forest. Went back to UCR, spent the day working in the lab. The director showed me on a map where the forest is – just NW of Villa Colon. It's going to be the future site of Universidad de la Paz...

E. Heske
1982

Journal

San José, San José Prov., Costa Rica

28 July, cont. Spent the evening with the OTS folks – morning was sunny, but rained afternoon + evening....



San José, San José Prov., to Turrialba, Cartago Prov., Costa Rica

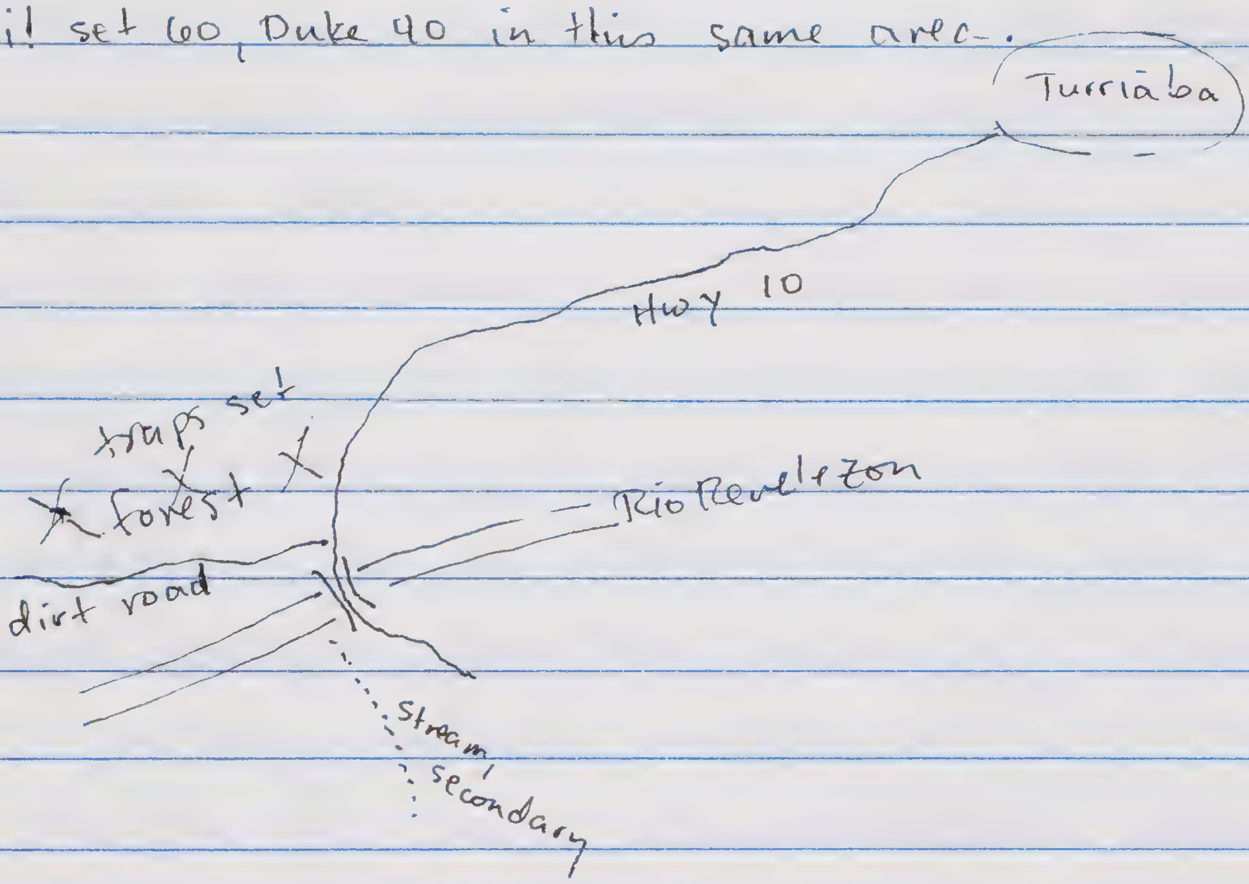
29 July Slow start this morning – had to get the rear door of the bus repaired, stop off at UCR, etc... got out of town ~1230. Headed E on Hwy 2 towards Cartago – got lost trying to find our way through the damn place (again) and finally got on the road to Turrialba about 1430. Most of the countryside is cut over and planted with cane, or coffee/banana. No good patches of forest to be seen – We drove along Hwy 10 as far as the turn off to Moravia, and drove almost all the way to the end of that – there were no patches of forest that looked worth trapping along the latter road, so we drove back

E. Heske
1982

Journal

San José, San José Prov., to Turrialba, Cartago Prov., Costa Rica

July, cont. towards Turrialba and set traps in a patch of forest along the Rio Reveltezon, 5.6 km NE Turrialba. I set 30 traps up a 60° slope in some fairly mature forest along the river bank (see map) — Phil set 60, Duke 40 in this same area.



Phil set 30 more, Duke 30 more in some secondary along Hwy 10 nearby, I set 20 along a stream in some secondary that ended up being mostly cane. The forest looks pretty good — The type of dense overstory but fairly open understory where we've caught Heteromys before. Steep slope, though — leaf litter floor, some spots with lots of vines. Many leaf-cutter ant trails. Spent the night in Turrialba. Hotel = ¢150.

Turrialba, Cartago Prov., to Limón, Limón Prov., Costa Rica

30 July Arose 0630. Slight overcast, but no rain. Vegetation is wet, but prob. from humidity/dew... I caught 1 Heteromys in the forest and nothing along the stream.

E. Weske
1982

Journal

Turrialba, Cartago Prov., to Limón, Limón Prov., Costa Rica

July, cont. Duke caught 1 *Heteromys*, 1 large *Oryzomys* that's about the same size/color as the *O. devius* caught in the Cordillera Central. Phil caught 3 *Heteromys* and an *alfaroi*-type *Oryzomys*, all in a small patch of semi-disturbed forest at the edge of the mature forest. Ate breakfast + headed for Limón. The route allowed us to see how really cut up this part of the country is — most of the forest is cleared away to allow extensive cane or coffee plantings. Near Limón there are a lot of banana plantations as well. Didn't see any place that looked worth trapping the whole way. Limón itself is a rather run-down, unpleasant city. Something in the air feels more discontented than other places we've been. More dirt + poverty apparent here. We rented a hotel room + decided to set traps in a patch of forest 4.6 km W. of Limón 25m.alt. that we had passed on the way in. Started setting traps ~1600. I set 60 in the forest, 10 in some secondary along the road. Duke set 70 in the forest, Phil set 30. The forest, again, looks good for *Heteromys*. Flat, for a change, dense overstory with several trees of DBH ? 2ft. Leaf litter floor — patches where there is a dense herbaceous undergrowth ~.75m high, some patches of dense vines. Phil set up two mist nets for bats with Duke's help. We left them furled and

B. Heske
1982

Journal

Limón, Limon Prov. Costa Rica

July cont headed into town for dinner. Returned to unfurl the nets just as it was getting dark (~1900). Left the nets up for about an hour and a half. One net caught ∅, the other caught two Artibeus, 4 Lonchorhina. Several of the ♀♀ were pregnant and appeared near term. We furled the latter net and left the former up overnight while we returned to town. Clear evening, warm.

Limón, Limón Prov., to San José, San José Prov, CR

31 July Arose 0630. Checked traps – I caught 1 Proechimys semispinosus, 4 Heteromys desmarestianus in the forest, ∅ in the secondary. Phil caught 1 Proechimys, Duke caught 2 Proechimys, 3 Heteromys, 2 Oryzomys (prob. caliginosus small dark ....). In the net that was left up there were several Artibeus, prob. more than 1 sp., a small Glossophaga, several Lonchorhina, and a Desmodus. Most of them were released, but Phil kept the Desmodus + a few Artibeus and Lonchorhina to take back to MVZ. We returned to town, packed, and headed back to San José. We arrived in San José early enough to get a hotel, make arrangements to use the lab tomorrow, and head out to Villa Colón to trap. We arrived in Villa Colón at ~1430, stopped for lunch, and then drove around for ~1hr. looking for the

G. Hesko
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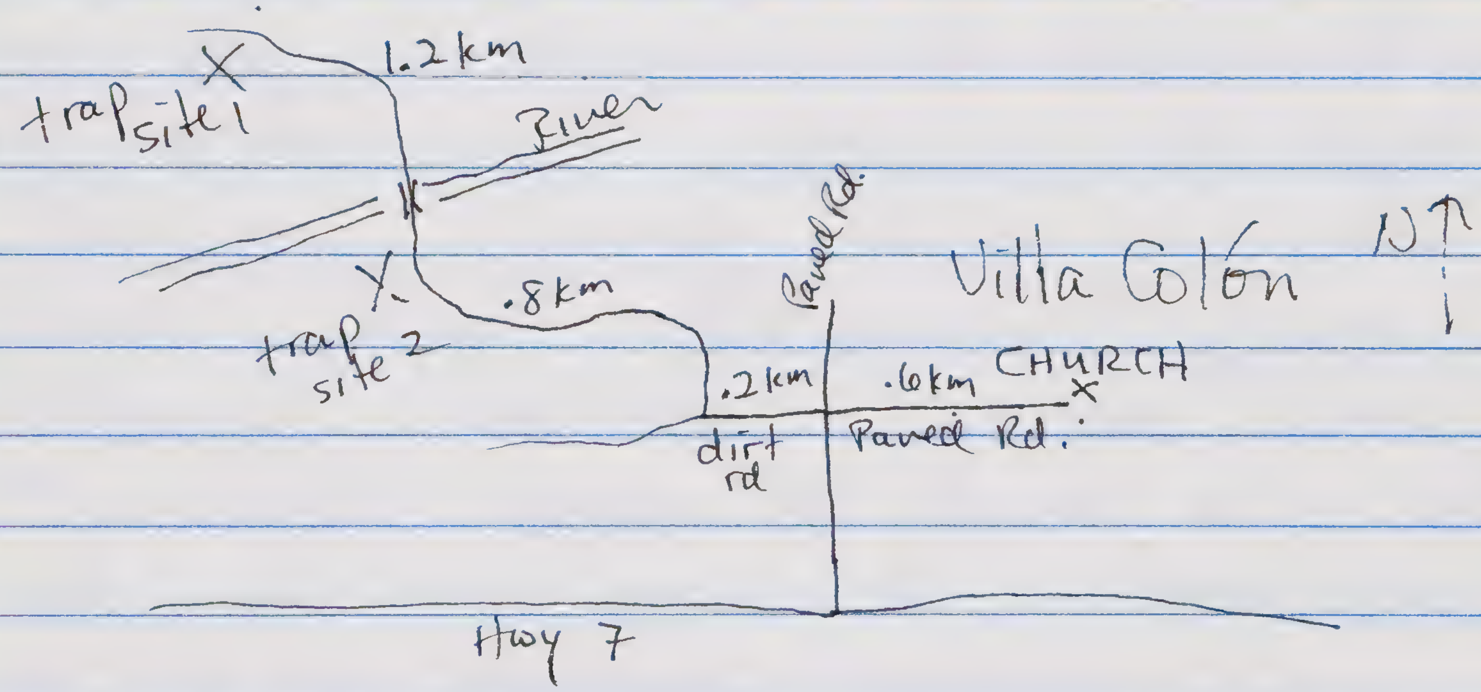
Journal

Vicinity of San José, San José Prov., Costa Rica

July cont — forest that was supposed to be there. We never found it — the surrounding area is all cut over with only small strips of trees. Cattle. We finally set traps in 2 areas that probably won't yield Heteromys, but were the best we could find (see map)



Site 1 has some cattle + horse pastures around it, some coffee plantings. It is a strip of forest along a small stream. Lots of steep ravines, open understory in most places but some patches of bamboo, vines. I set 10 traps near the stream, then 20 more in the forest along the edge of a pasture with some secondary brush. Duke + Phil set 40/30 traps respectively. Site 2 is near a river, but not right on the bank. Steep slopes in the area as a whole, mostly overgrown with

E. Heske
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Journal

Vicinity of San José, San José Prov., Costa Rica

July, cont. a dense herbaceous ground cover in most places, vines + brush under the low canopy in the rest. I set 30 traps here, as did both Phil + Duke. finished ~1730 and headed back to San José. Staying at Hotel Asia, Calle 11, Av Cent. y 1. Only ₡170 for the 3 of us. Clear day + evening.

San José, San José Prov., Costa Rica

Aug. Aroso 0700. Drove to Villa Colón to check traps. Clear sunny day - no rain on our whole "Atlantic side" trip. At site 2 I caught 1 Proechimys, Duke caught 1 Proechimys, 1 Sigmodon, Phil caught 0. At site 1 I caught 1 Proechimys, 1 Sigmodon, 3 Liomys; Duke caught 1 Sigmodon, 3 Liomys; Phil caught 2 Liomys. We returned to San José and spent the afternoon in the lab karyotyping, etc. We have 34 animals to process...

San José, San José Prov., Costa Rica

2 Aug. Spent the day in the lab. Ran errands, etc.

San José, ~~Prov~~ San José Prov., Costa Rica

3 Aug. Again, spent part of the day in lab. Beth Braker is in town + saw her this morning. Went out to the Mexico Bar with Pedro Leon, Tony Morena, Duke + Phil for the evening. Good food, lots of beer, lots of heavy scientific conversation. Phil is leaving at 700 tomorrow (up at 5 am - ugh) + Duke + he got all the permits, etc., together today. Went very smoothly - and quickly.

E. Heske
1982

Journal

San José, San Jose Prov., to San Isidro, Puntarenas Prov., Costa Rica

1 Aug. Arose 0500, took Phil + Beth to the airport (their plane left at 0700) - no problems getting through customs at this end - didn't even charge for the extra baggage, live animals carried on plane OK. Duke + I came back to San José, checked out of the hotel, ate breakfast, rented the bus for another week and headed south on Hwy 2 - after stopping by the lab to pick up some gear - by 1000. We found a road kill Sciurus hoffmani near the top of cerro de la Muerte - skull smashed so we didn't collect it. We arrived in San Isidro at ~1200, stopped and had lunch. We haven't seen much in the way of good trapsites on the way in - not since we got off the mtn. We tried heading towards Dominical, but the road was pretty rough and we decided not to chance 40 km of it with the bus. On Hwy 2 there were a few patches of good-looking forest to the S. of San Isidro, so we set traps in two areas: I set 30 traps, Duke set 40 in a patch 34.7 km SW San Isidro. In the area I set traps, there is an open understory, a few saplings, vines and logs/stumps, leaf litter floor. Sort of dry - there is a banana planting on one side of the strip of forest, which is ~50 m wide,

E. Heske
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Journal

San Isidro, Puntarenas Prov., Costa Rica

Aug, cont. and a field with some brush, bananas on the other side. Alt. 525 m. weather clear, sunny + hot. In an extensive area of moister, more mature forest 18.4 km SW San Isidro, I set 60 more traps, Duke set 60 traps. The canopy here is higher and more dense, areas of thick herbaceous ground cover ~.5-1 m tall, more vines, etc. Looks like better Heteromys habitat. Both areas are fairly flat - a welcome change! Here I saw my first terciopelo - just as I finished setting traps and began to leave the forest, it moved out of my way and stuck it's head up above the leafy ground cover to look at me. I was about 1.5m long (maybe a bit less, I couldn't see the whole snake) and the coloration looked like a rotting stick - very cryptic. We spent the night in San Isidro, which is a fairly pleasant place with a nice town square. Full moon. Warm clear evening.

San Isidro to Cd. Neilly, Puntarenas Prov., Costa Rica

5 Aug. Arose 0600 and went to check traps after first eating breakfast and checking out of our hotel. At the nearby site where we had 120 traps between us, I only caught 1 juvenal Heteromys, Duke caught 1 juvenal Heteromys and a Proechimys. The further site yielded some surprises. My line caught only 1 Proechimys and an Oryzomys -

E. Heske
1982

Journal

San Isidro to Cd. Neilly, Puntarenas Prov., Costa Rica

Aug, cont. short, tan dorsal fur, white underparts – called "species C" tentatively. Duke's line was only about 20 m N of mine, but the area was more lush – more verdant ground cover – and this line caught 14 animals: 2 Proechimys, 1 Oryzomys "sp C", and two other (possible) types of Oryzomys – 5 fairly large (~40g) individuals of a uniform dark brown color and 5 smaller Oryzomys (Scotinomys size) of the same uniform dark brown. I can't think of a good reason to explain the radical difference in trap success between the two sites – or why so few animals were caught at the site nearer to San Isidro. We headed S. on Hwy 2 again, planning to reach San Vito by early afternoon. Along the way we collected the skull of a roadkill Agouti 15 km E (by rd) Palmar Norte. There was forest to one side of the road and tall grass blending into brush and a gradual slope down to a river on the other. We arrived in Cd. Neilly and had lunch. We located the road to San Vito after lunch (~1330) and headed out. The road was unpaved with many large rocks, potholes + gullies – as well as going up and over a very steep mountain. After struggling along for over half an hour, we finally came across some people living along the road. They said it would take us another 3 hrs to reach San Vito

E. Heske
1982

Journal

Cd. Neilly, Puntarenas Prov., Costa Rica

5 Aug. cont. in our bus (~40 km). We decided it wasn't worth the effort and returned to Cd. Neilly. By this time it had become overcast and was threatening to rain. We found an area with a good-looking patch of forest only .4 km S (by rd) of Cd. Neilly. I set 50 traps, Duke set 40. The area has some steep slopes + ravines, but a dense canopy of mature trees and lots of vines, herbaceous ground cover. It rained rather hard while we set traps — Returned to Cd. Neilly and spent the night there. The two juvenal Heteromys died during the afternoon and we took tissues + put them up as skeletons. Lots of odd-sounding, and loud, anurans in the area. Some sound like a video game... Cloudy night, some showers, distant lightning.

Cd. Neilly, Puntarenas Prov., to San José, San José Prov., CR

Aug. Arose 0515. Checked traps - I caught 2 Heteromys, Duke caught 5, including 1 partial albino. We had breakfast in Cd. Neilly, then left for San José to make sure we get karyotypes for this sample. Stopped briefly in San Isidro, then continued on to our former trapsite 2.2 km E (by rd) Trinidad, atop Cerro de la Muerte. We are going to try to catch a few more Heteromys oresterus. I set 90 traps here - 60 where Phil went in and

E. Heske
1982

Journal

Cerro de la Muerte, San José, San José Prov., Costa Rica

Aug., cont. caught 3 H. oresterus last time, and 30 where I caught one. Duke set 100 traps — 70 in the forest and 30 in the secondary. It rained on us — lots of fog, occaisional showers (like every half hour!). Finished setting traps at about 1530 and headed on to San José. We'll drive back to check traps in the morning. Made arrangements to work in the lab, etc., tomorrow before stopping for dinner + checking into Hotel Cocori.

Cerro de la Muerte, San José, San José Prov., Costa Rica

7 Aug. Arose 0600 and drove back to 2.2 km E Trinidad to pickup our traps. I was amazed to find that my line of 60 traps had caught only 1 O. devius. My second line of 30 caught only 1 Reithrodontomys creper. Perhaps I set them too much in the open (Heteromys-style). It was a cold + rainy night there... Duke was much more successful and caught several animals — 2 H. oresterus as well as 1 Scotinomys teguinus, 2 R. creper, 5 (of total Oryzomys sp.) Oryzomys devius, 1 R. sumichrasti, 5 P. nudipes. Several animals died in the traps during the night and we prepared them as study skins, took tissues, etc. before heading back to U.C.R. Spent the rest of the day working in the lab processing animals.

San José, San José Prov., to Volcan Irazú, Cartago Prov., Costa Rica

8 Aug. No one is working in the lab today, so we won't be able to do any karyotyping. Spent the

E. Heske
1982

Journal

San José, San José Prov., to Volcan Irazú, Cartago Prov. Costa Rica

Aug. cont

morning running errands. Went to visit the National Museum – only took a couple hours, as it's a pretty small place. Worth the visit, though – a lot of really nice native American artifacts and artwork from both ~~Atec~~ Aztec + Incan derivative.